4IHSSF1044

DocumentID	NONCD0002873
Site Name	NELLO TEER QUARRY-DENFIELD
DocumentType	Correspondence (C)
RptSegment	1
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Box	SF1044
AccessLevel	PUBLIC
Division	WASTE MANAGEMENT
Section	SUPERFUND
Program	IHS (IHS)
DocCat	FACILITY

Eric R.

Quantum Environmental, Inc.

February 10, 2005

Mr. Charles Weaver
North Carolina Department of Environment and Natural Resources
Division of Water Quality-Point Source Branch
1617 Mail Service Center
Raleigh, North Carolina 27699-1617

RE: Request for Modification of NPDES Permit
NPDES Permit NC0085243
Hanson Aggregates Durham (Nello Teer) Quarry
Durham County
Groundwater Incident #9357
Quantum Project No. 0013-94-012

Dear Mr. Weaver:

Quantum Environmental, Inc. (Quantum) is submitting this letter on behalf of our client, Hanson Aggregates Southeast, Inc. (Hanson), regarding the above-referenced site. We are submitting this letter and supporting information as a request to change the above-referenced Individual NPDES Permit to a General NPDES Permit.

Following the late January 2005 submittal of a Corrective Action Plan (CAP) Addendum to Mr. Eric Rice of the Aquifer Protection Section describing the planned natural attenuation of the remaining chlorinated solvent-contaminated groundwater at the site, Quantum is interested in resuming active remediation of the petroleum-contaminated groundwater present at the site.

The petroleum and chlorinated solvent groundwater plumes at the site underwent active groundwater recovery, treatment and discharge under an individual NPDES permit for several years. Quantum has concluded that the most expedient and cost-effective means of continuing remediation of the petroleum plume at the site is via active groundwater recovery as well as through the operation of a soil vapor extraction (SVE) system that was installed at the site in 2003.

In order to facilitate the goal of remediating the petroleum contaminated groundwater, Quantum proposes to initiate limited groundwater recovery using only three of the groundwater recovery wells present at the site (RW-3, RW-8 and RW-10) as shown in the attached figure. Recovered groundwater would be treated using the existing groundwater treatment system. In addition, the SVE system present at the site has a

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

wells during the operation of the SVE system. Quantum would like to route the recovered fluids to the oil/water separator and through the groundwater remediation system for treatment and subsequent discharge. An attached figure details the location of the SVE system and vapor wells as well as two of the recovery wells and the groundwater remediation system. RW-10 is designed to recover the petroleum-contaminated groundwater that is trapped in the sand backfill that is present in the former UST pit following the removal of the UST's. Thus the fluids recovered by the vapor wells are likely to be exactly the same as what is recovered by RW-10.

In support of this request please find enclosed copies of tables documenting the latest analytical results for the recovery wells that we are proposing to continue operating as well as figures illustrating the site and the extent of the solvent-contaminated groundwater at the site. Please note that no chlorinated solvent residuals have ever been detected in either RW-8 or RW-10, and no chlorinated solvent residuals have been detected in RW-3 since June 2001, other than the chloroform reported for the October 20, 2003 sampling event. The chloroform concentrations reported for RW-3 and RW-8 during the October 2003 sampling event are believed to be the result of laboratory contamination since this compound was never previously detected in any of the monitoring or recovery wells at the site but was reported to be present in five recovery wells at the site in addition to two monitoring wells during the October 2003 sampling event. In addition, no chloroform was detected in any of the monitoring or recovery wells sampled during the April 2004 sampling event.

Finally, attached is a copy of a chronic toxicity test report that Quantum conducted in January 2004. This report details the results of chronic toxicity testing that was performed on effluent of the groundwater remediation system while recovery wells RW-3, 8, and 10 only were operating. As you can see, the effluent was determined to not be toxic.

At this time the operation of RW-10 is needed to facilitate the function of the recently installed SVE system in the area of the former UST pit. Since the installation of the SVE system in 2003, this system has not operated due to a rise in the shallow water table in this area. The water table must be lowered prior to initiating operation of the SVE system. Thus, resuming operation of the groundwater recovery system is vital to remediating petroleum-contaminated soil at the site in addition to the petroleum-contaminated groundwater.

Given that operation of the system as discussed herein constitutes a petroleum-contaminated groundwater remediation system only, Quantum requests your agreement with this approach so that we can resume limited operation of the groundwater remediation system at the Teer site.

If you have any questions regarding this matter, please contact me at (919) 852-3595. Thank you for your assistance.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, L. G.
Project Hydrogeologist

cc: Mr. Steve Edgerton, Hanson w/o attachments
Mr. Walt Plekan, DENR, RRO-UST Section
Mr. Eric Rice, DENR, RRO-Aquifer Protection Section

L05-007

Enclosure

Table 3: Summary of Recovery Well Analytical Results

RW-3

Constituent	Date												2L Standard
	8/29/99	2/25/00	6/14/00	12/7/00	6/15/01	12/28/01	6/4/02	9/12/02	4/15/03	10/20/03	4/26/04	10/6/04	
Benzene	**25.50**	BDL	**7.60**	**9.70**	**16.80**	**10.30**	**13.00**	BDL	BDL	**64.00**	**64.00**	**61.00**	1.00
Toluene	21.50	BDL	3.60	2.90	11.00	2.60	5.90	BDL	BDL	56.00	BDL	BDL	1000.00
Ethylbenzene	22.50	BDL	3.30	1.80	19.30	6.10	11.00	BDL	BDL	**64.00**	**47.00**	**72.00**	29.00
Xylenes	270.00	BDL	16.40	13.20	45.20	6.30	20.80	BDL	BDL	137.00	107.00	170.00	530.00
Naphthalene	11.00	BDL	8.00	7.00	BDL	**27.40**	NA	6.50	**21.00**	**130.00**	**110.00**	**51.00**	21.00
MTBE	11.50	BDL	BDL	BDL	NS	7.10	BDL	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	NA	0.0004
IPE	BDL	BDL	BDL	BDL	BDL	NS	12.00	BDL	BDL	38.00	36.00	BDL	70.00
Total VOCs	362.00	0.00	38.90	34.60	92.30	59.80	62.70	6.50	21.00	489.00	364.00	354.00	
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.00	NA	70.00
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.00	NA	
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.00	NA	70.00
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
1,1 Dichloroethene	BDL	BDL	1.60	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	7.00
Trichloroethene	BDL	BDL	1.00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
1,1,1 Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	200.00
cis-,1,2-Dichloroethylene	BDL	BDL	2.70	BDL	1.40	BDL	NA	BDL	BDL	BDL	BDL	BDL	70.00
Chloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2800.00
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**22.00**	BDL	BDL	0.19
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.015
Total CVOCs	0.00	0.00	5.30	0.00	1.40	BDL	0.00	0.00	0.00	22.00	0.00	0.00	
Acenaphthene	BDL	NA	NA	BDL	BDL	BDL	NA	BDL	11.00	BDL	BDL	**740.00**	80.00
1-Methylnaphthalene	**44.00**	NA	NA	BDL	BDL	BDL	NA	**43.00**	**23.00**	**110.00**	**41.00**	**190.00**	NS
2-Methylnaphthalene	**38.00**	NA	NA	BDL	BDL	BDL	NA	9.90	BDL	**87.00**	**40.00**	**190.00**	28.00
Benzo (a) anthracene	NA	NA	NA	BDL	BDL	BDL	NA	BDL	BDL	**4.50**	BDL	BDL	0.0479
Phenanthrene	12.00	NA	NA	24.00	2.60	BDL	NA	24.00	33.00	**270.00**	BDL	BDL	210.00
Floranthene	NA	NA	NA	BDL	BDL	BDL	NA	BDL	BDL	23.00	BDL	BDL	280.00
Fluorene	NA	NA	NA	BDL	BDL	BDL	NA	12.00	15.00	BDL	BDL	BDL	280.00
Pyrene	NA	NA	NA	BDL	BDL	BDL	NA	4.40	BDL	54.00	BDL	BDL	210.00
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	BDL	NA	15.00

All Results in ug/l.
NA Indicates Not Analyzed.
BDL Indicates Below Detection Limit.
Bold Indicates Concentration Above State 2L Standard.
NS Indicates Well Not Sampled.

Table 3: Summary of Recovery Well Analytical Results

RW-8

Constituent	Date										2L Standard
	6/14/00	12/7/00	6/15/00	12/28/01	6/4/02	9/12/02	4/15/03	10/20/03	4/26/04	10/6/04	
Benzene	**10.10**	BDL	BDL	NS	BDL	BDL	**15.00**	**16.00**	**15.00**	**22.00**	1.00
Toluene	1.20	BDL	BDL	NS	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	3.10	BDL	BDL	NS	13.00	BDL	2.00	7.90	BDL	11.00	29.00
Xylenes	4.90	BDL	BDL	NS	BDL	BDL	7.60	10.00	BDL	14.00	530.00
Naphthalene	BDL	BDL	BDL	NS	NA	BDL	2.90	**55.00**	BDL	**79.00**	21.00
MTBE	BDL	2.50	BDL	NS	BDL	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	BDL	BDL	NS	NA	NA	NA	NA	NA	NA	0.0004
IPE	BDL	BDL	BDL	NS	BDL	8.80	24.00	BDL	11.00	BDL	70.00
Total VOCs	19.30	2.50	0.00	NS	13.00	8.80	51.50	88.90	26.00	126.00	
Acenaphthene	BDL	BDL	BDL	NS	BDL	BDL	2.20	4.20	BDL	25.00	80.00
Acenaphthylene	BDL	BDL	BDL	NS	BDL	BDL	BDL	1.30	BDL	BDL	210.00
1-Methylnaphthalene	BDL	BDL	BDL	NS	BDL	BDL	8.90	**41.00**	BDL	**18.00**	NS
2-Methylnaphthalene	BDL	BDL	BDL	NS	BDL	BDL	3.30	**34.00**	BDL	8.20	14.00
Fluorene	BDL	BDL	BDL	NS	BDL	BDL	2.60	6.20	BDL	BDL	280.00
Phenanthrene	BDL	BDL	BDL	NS	BDL	BDL	2.30	9.60	BDL	BDL	210.00
Pyrene	BDL	BDL	BDL	NS	BDL	NA	BDL	1.90	BDL	BDL	210.00
1,1-Dichloroethane	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	BDL	700.00
1,1 Dichloroethene	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	BDL	7.00
Trichloroethene	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	BDL	2.80
1,1,1 Trichloroethane	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	BDL	200.00
cis-,1,2-Dichloroethene	BDL	BDL	BDL	NS	NA	NA	BDL	BDL	BDL	BDL	70.00
Chloroethane	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	BDL	MDL
Chloroform	BDL	BDL	BDL	NS	BDL	NA	BDL	**22.00**	BDL	BDL	0.19
Vinyl Chloride	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	NS	0.00	0.00	0.00	22.00	0.00	0.00	
Lead	NA	NA	NA	NS	NA	NA	NA	NA	BDL	NA	15.00

All Results in ug/l.
NA Indicates Not Analyzed.
BDL Indicates Below Detection Limit.
Bold Indicates Concentration Above State 2L Standard.
NS Indicates Well Not Sampled.

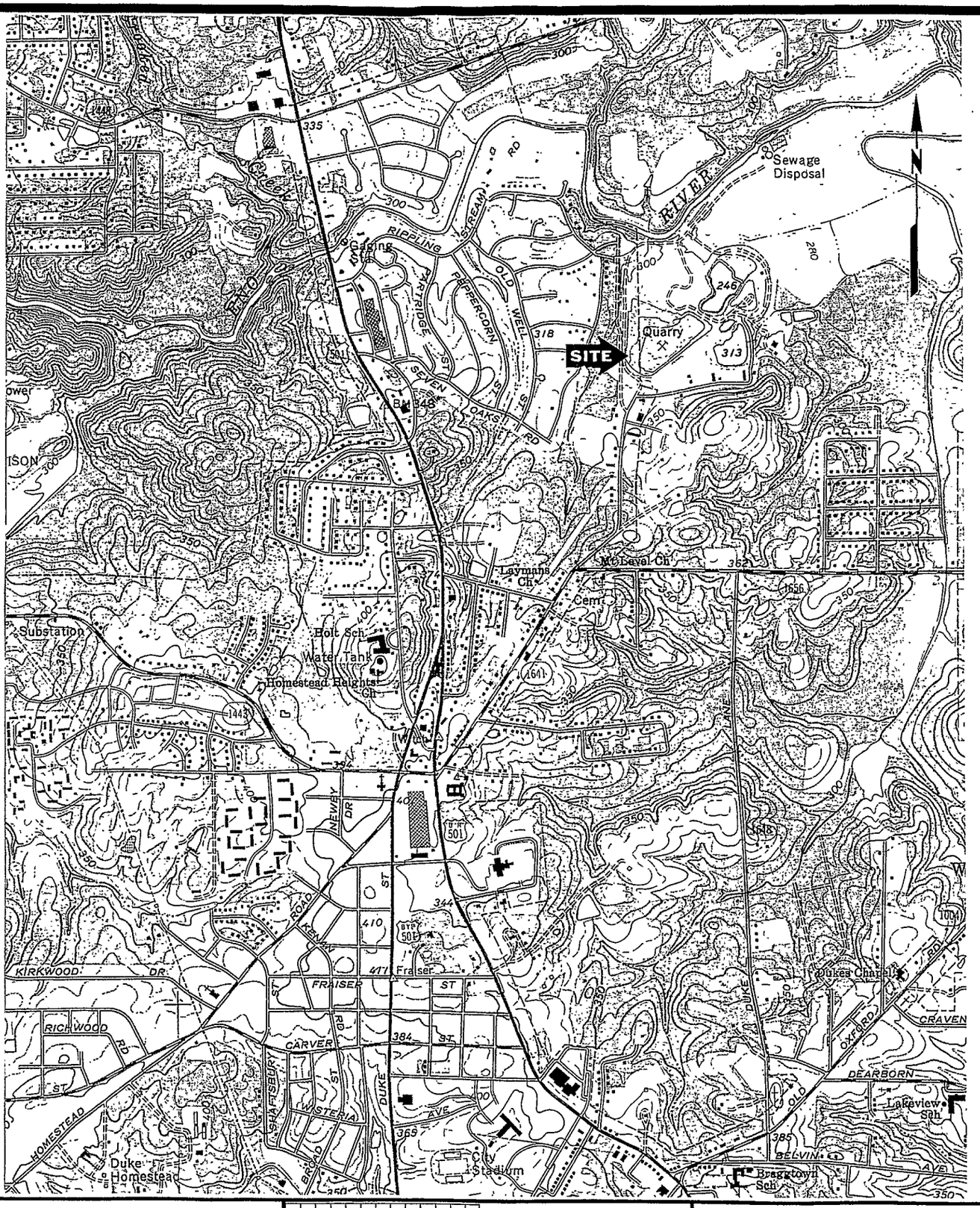
Table 3: Summary of Recovery Well Analytical Results

RW-10

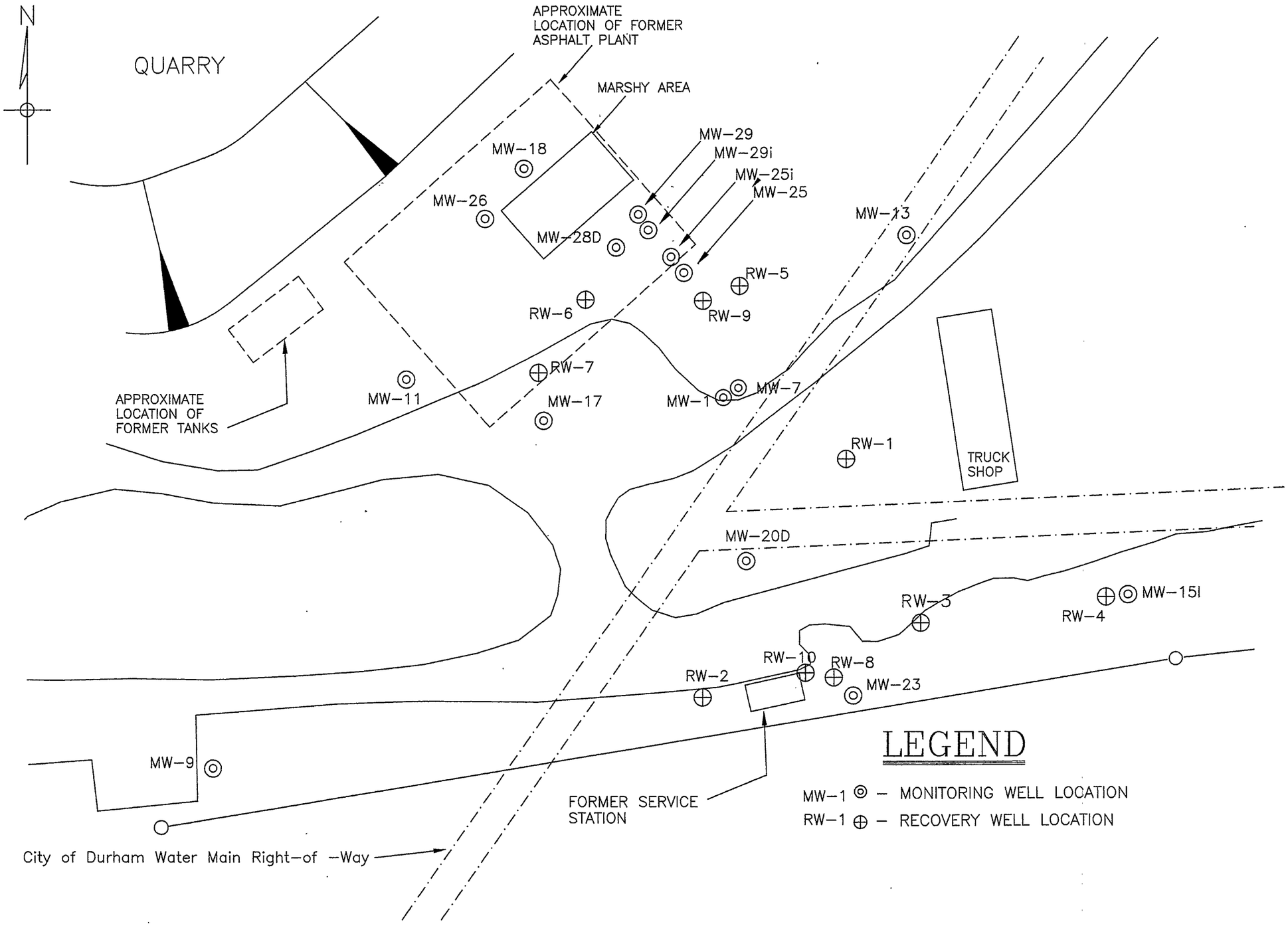
Constituent	Date		2L Standard
	4/26/04	10/6/04	
Benzene	BDL	BDL	1.00
Toluene	BDL	BDL	1000.00
Ethylbenzene	BDL	27.00	29.00
Xylenes	BDL	40.00	530.00
Naphthalene	**72.00**	**180.00**	21.00
MTBE	BDL	BDL	200.00
EDB	BDL	BDL	0.0004
IPE	BDL	BDL	70.00
Total VOCs	72.00	247.00	
Acenaphthene	BDL	**130.00**	80.00
Acenaphthylene	BDL	BDL	210.00
1-Methylnaphthalene	**15.00**	**82.00**	NS
2-Methylnaphthalene	BDL	**82.00**	14.00
Fluorene	BDL	BDL	280.00
Phenanthrene	BDL	BDL	210.00
Pyrene	BDL	BDL	210.00
1,1-Dichloroethane	BDL	BDL	700.00
1,1 Dichloroethene	BDL	BDL	7.00
Trichloroethene	BDL	BDL	2.80
1,1,1 Trichloroethane	BDL	BDL	200.00
cis-,1,2-Dichloroethene	BDL	BDL	70.00
Chloroethane	BDL	BDL	MDL
Chloroform	BDL	BDL	0.19
Vinyl Chloride	BDL	BDL	0.02
Total CVOCs	0.00	0.00	
Lead	13.00	NA	15.00

123 files/13/139412/9412rwax.xls

All Results in ug/l.
NA Indicates Not Analyzed.
BDL Indicates Below Detection Limit.
Bold Indicates Concentration Above State 2L Standard.
NS Indicates Well Not Sampled.



Site Location Map **Nello Teer Quarry** **5013 Denfield St.** **Durham, NC** Ref: NW Durham Quadrangle	**Quantum** Environmental, Inc. 6001 Chapel Hill Road, Suite 108 Raleigh, NC 27607 Phone: (919) 852-3595 Fax: (919) 852-1997	**FIGURE 1** **SCALE: 1" = 2000'** **Proj. No.: 0013-94-012**



Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Rd. Suite 108
Raleigh North Carolina 27607
Phone: (919) 852-3595 Fax: (919)852-1997

FIGURE 2

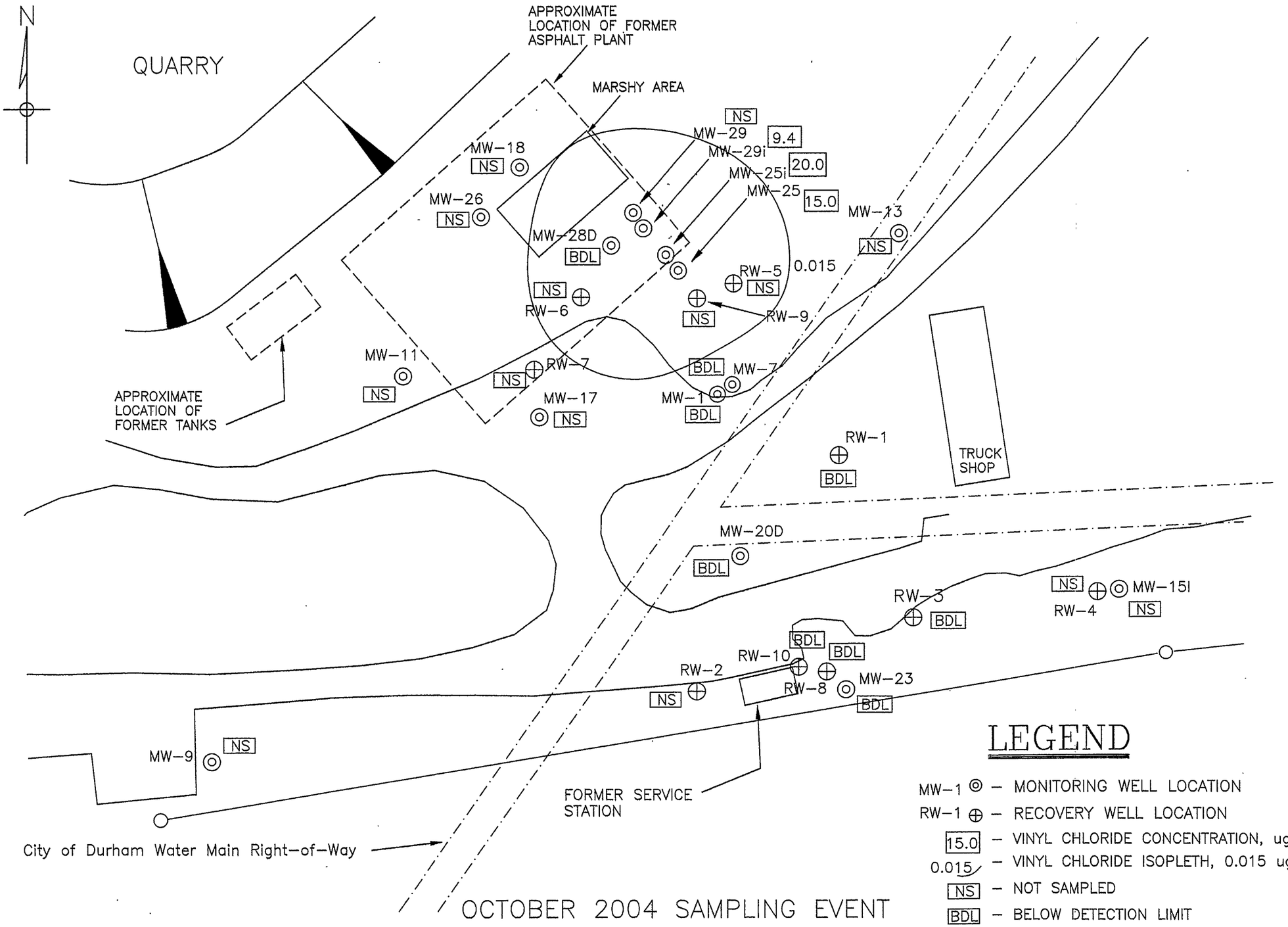
WELL LOCATION MAP
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012

SCALE: 1"= 75'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
12 9/1		



LEGEND

- MW-1 ◎ – MONITORING WELL LOCATION
- RW-1 ⊕ – RECOVERY WELL LOCATION
- [15.0] – VINYL CHLORIDE CONCENTRATION, ug/l
- 0.015 – VINYL CHLORIDE ISOPLETH, 0.015 ug/l
- [NS] – NOT SAMPLED
- [BDL] – BELOW DETECTION LIMIT

Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Rd. Suite 108
Raleigh North Carolina 27607
Phone: (919) 852-3595 Fax: (919)852-1997

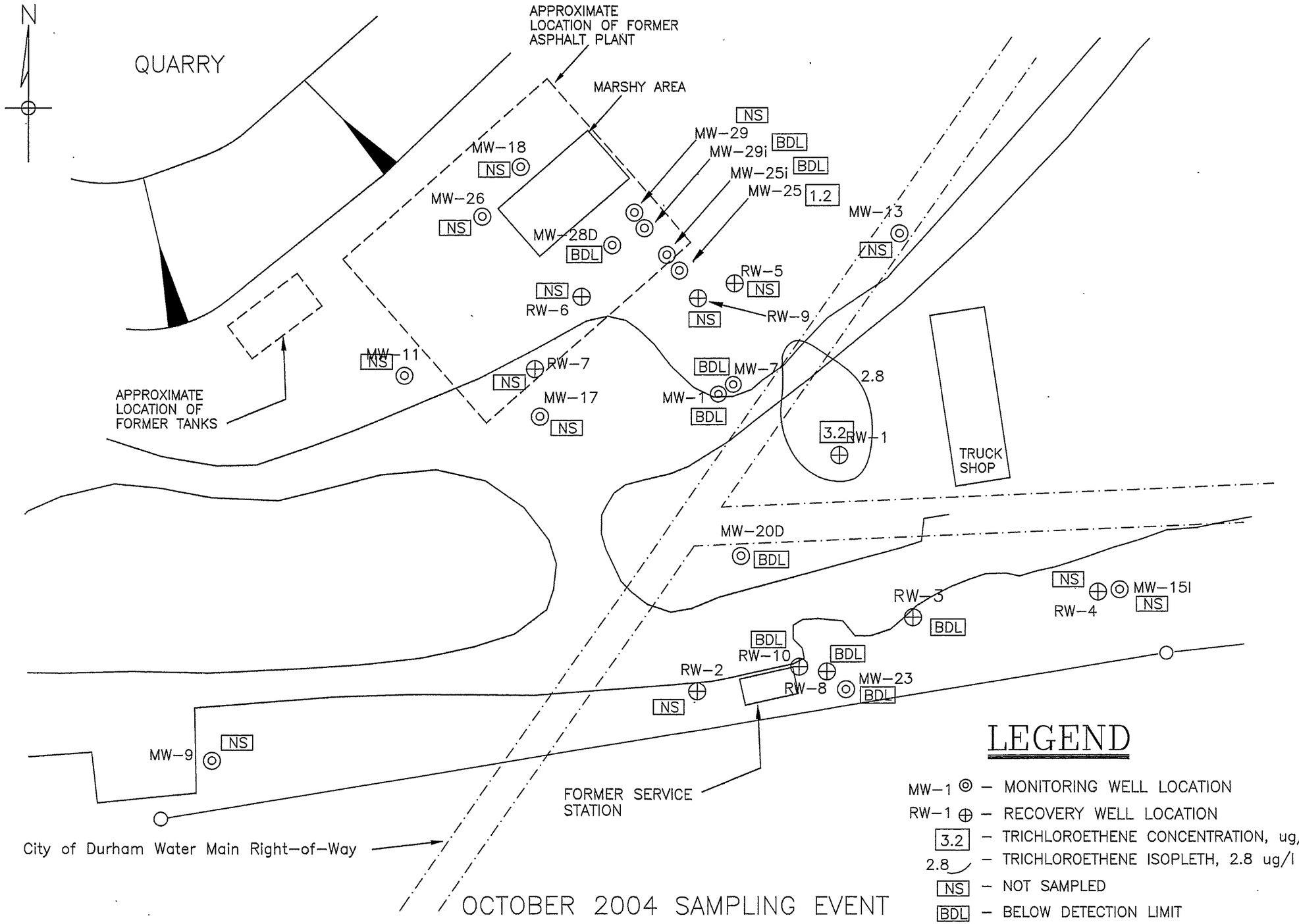
FIGURE 3

OCTOBER 2004 VINYL CHLORIDE
GROUNDWATER PLUME
FORMER NELLO TEER QUARRY
DURHAM, NC

Revisions

Project No.
0013-94-012
SCALE: 1"= 75'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
11/04		



Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Rd. Suite 108
Raleigh North Carolina 27607
Phone: (919) 852-3595 Fax: (919)852-1997

FIGURE 4

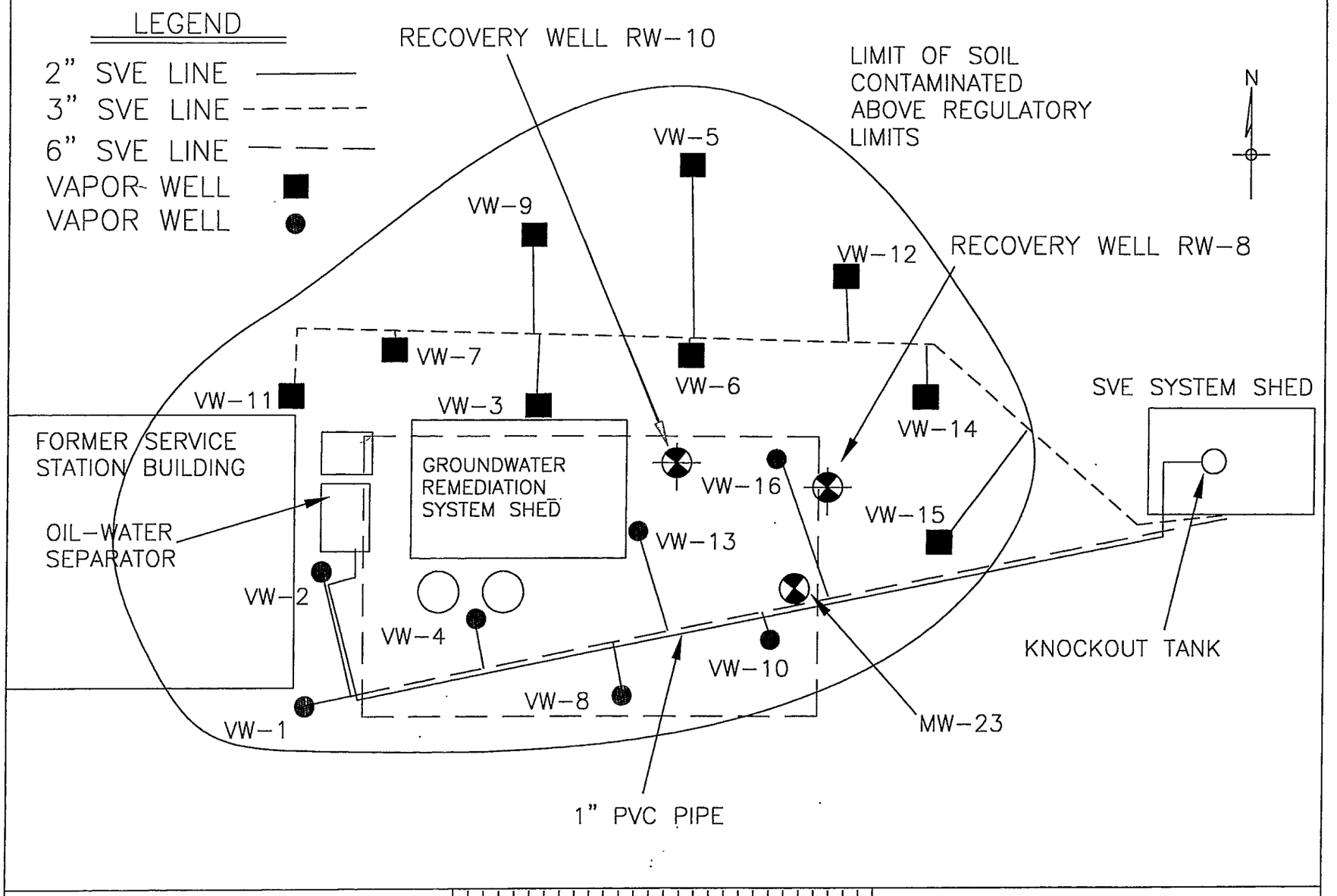
OCTOBER 2004 TRICHLOROETHENE
GROUNDWATER PLUME
FORMER NELLO TEER QUARRY
DURHAM, NC

Revisions

Project No.
0013-94-012

SCALE: 1"= 75'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
11/04		



SOIL VAPOR EXTRACTION SYSTEM
FORMER NELLO TEER QUARRY
DURHAM, NORTH CAROLINA

Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Road, Suite 108
Raleigh, North Carolina 27607
Phone: 919.852.3595 Fax: 919.852.1997

FIGURE 5
SCALE: 1" = 10 '
PROJECT NO. 0013-94-012 REV 1

Environmental Testing Solutions, Inc.

PO Box 7565
Asheville, NC 28802

Phone: (828) 350-9364
Fax: (828) 350-9368
E-mail: JimSumner@aol.com

January 30, 2004

Mr. Michael Dwyer
Quantum Environmental, Inc.
6001 Chapel Hill Road, Suite 108
Raleigh, NC 27607

RE: ETS PROJECT NUMBER: 1020

Dear Mr. Dwyer:

Enclosed are toxicity test results for samples from Hanson Aggregates Southeast, Inc. received by Environmental Testing Solutions, Inc. January 14 through January 17, 2004.

Location	Parameter Code	Test Procedure	EPA Method Number	Final Results
001	TGP3B	North Carolina *Ceriodaphnia* Chronic Effluent Toxicity Procedure – December 1985, Revised: February 1998 (*Ceriodaphnia* Pass/Fail Toxicity Test)	EPA-821-R-02-013	PASS

If this test was performed as an NPDES requirement or by Administrative Letter, please enter a **P** on the Effluent Discharge Monitoring Form (MR-1) for the collection date **January 13, 2004** using the parameter code **TGP3B.**

Additionally, please sign and submit the enclosed DWQ Aquatic Toxicity Form (AT-1) to the following address. The original AT-1 form must be received by **February 29, 2004.**

North Carolina Department of Environment and Natural Resources
DWQ/Environmental Sciences Branch
1621 Mail Service Center
Raleigh, NC 27699-1621

If you have any questions concerning these results, please feel free to contact me.

Sincerely,

Jim Sumner
Laboratory Director

Environmental Testing Solutions, Inc.

PO Box 7565
Asheville, NC 28802

Phone: (828) 350-9364
Fax: (828) 350-9368
E-mail: JimSumner@aol.com

Effluent Toxicity Report Form - Chronic Pass/Fail and Acute LC_{50}

Date: January 30, 2004

Facility: Quantum Environmental, Inc. NPDES #: NC- 0085243 Pipe #: R&D County: Durham
Hanson Aggregates Southeast, Inc. (Nello Teer)

Laboratory Performing Test: Environmental Testing Solutions, Inc.

Signature of Operator in Responsible Charge:

Signature of Laboratory Supervisor: Jim Sumner

Comments:

Project: 1020

Samples: 040114.05, 040117.06

Mail Original To: North Carolina Department of Environment and Natural Resources
DWQ/ Environmental Sciences Branch
1621 Mail Service Center
Raleigh, NC 27699-1621

Chronic Test Results

Calculated *t:*	-1.586
Tabular *t:*	2.508
% Reduction:	-4.0

North Carolina *Ceriodaphnia* Chronic Pass/Fail Reproduction Toxicity Test

Control Organisms	1	2	3	4	5	6	7	8	9	10	11	12
Number of Young Produced	33	37	29	34	34	34	33	34	33	33	33	33
Adult Survival: (L)ive, (D)ead	L	L	L	L	L	L	L	L	L	L	L	L

Effluent Percentage: 90%

Treatment 2 Organisms	1	2	3	4	5	6	7	8	9	10	11	12
Number of Young Produced	36	33	37	34	38	34	33	32	34	36	38	31
Adult Survival: (L)ive, (D)ead	L	L	L	L	L	L	L	L	L	L	L	L

Percent Morality	Average Reproduction	
Control 0.0	Control 33.3	
Treatment 2 0.0	Treatment 2 34.7	
Control CV 5.3	Pass	Fail
% control organisms producing 3rd brood 100	X	.

pH (S.U.)	1st Sample Start	1st Sample End	1st Sample Start	1st Sample End	2nd Sample Start	2nd Sample End
Control	7.83	7.92	7.80	8.24	7.47	7.80
Treatment 2	8.34	8.73	8.41	8.78	8.46	8.74

D.O. (mg/L)	1st Sample Start	1st Sample End	1st Sample Start	1st Sample End	2nd Sample Start	2nd Sample End
Control	8.2	8.1	8.0	8.2	8.0	7.9
Treatment 2	8.7	8.1	8.0	8.2	8.5	8.2

Test Start Date: 01-14-04

Collection (Start) Date:
Sample 1 01-13-04 Sample 2 01-16-04

Sample Type/Duration

	Grab	Comp.	Duration
Sample 1	X	.	.
Sample 2	X	.	.

	Dilution Water	Sample 1	Sample 2
Alkalinity (mg $CaCO_3$/L)	34, 35		
Hardness (mg $CaCO_3$/L)	43, 44		
Conductivity (µmhos/cm)	159, 153, 156	658	653
Total Residual Chlorine (mg/L)		<0.10	<0.10
Sample Temp. at Receipt (°C)		1.1	0.4

LC_{50}/Acute Toxicity Test

(Mortality expressed as %, combining replicates.)

Concentration (%)						
Mortality (%)						

LC50 = _____
95% Confidence Limits
_____ to _____

Method of Determination
- [ ] Trimmed Spearman Karber
- [ ] Probit
- [ ] Other: _____

	pH (S.U.) Start	pH (S.U.) End	DO (mg/L) Start	DO (mg/L) End
Control				
High Conc.				

Organism Tested: *Ceriodaphnia dubia* **Duration:** 7-days

Laboratory Benchsheets and Statistical Analyses

Control Information, North Carolina Chronic Whole Effluent Toxicity Test (EPA-821-R-02-013 Method 1002.0, NC Modification- February, 1998) Species: *Ceriodaphnia dubia*

Control # 3 *Date* 01.14.04

Test grouping information:	Project #
6	
5	
4 Three Rs MHP	1016
3 Rocky Mnt WWTP	1027
2 Quantum - Nello Teer	1020
1 CONTROL	

Acceptance Criteria:

% of Male Adults (≤ 20%):	0%
% Adults having 3rd Broods (≥ 80%):	100%
% Mortality (≤ 20%):	0%
Mean Offspring/Female (≥ 15 offspring/surviving female):	33.3
% CV (< 40.0%):	5.3%

Test organism information:		*Test information:*	
Organism age:	< 24-hours old	Randomizing template:	Blue
Date and times organisms were born between:	01-13-04 1511 TO 1802	Incubator number and shelf location:	2D3
Organism source:	01-06-04 A-D	YCT batch: ABS	12-02-03
Transfer bowl information:	pH = 7.94 SU Temperature= 24.2°C	*Selenastrum* batch: ABS	12-31-03

Daily renewal information:

Day	Date	Test initiation, renewal, feeding, or termination time	Control water batch used (SSW)	Analyst
0	01.14.04	Initiation 1130	01-08-04	CAJ
1	01.15.04	Feeding 0750		KEK
2	01.16.04	Renewal 1 0700	01-12-04	CAJ
3	01.17.04	Feeding 0815		CAJ
4	01.18.04	Feeding 0900		KEK
5	01.19.04	Renewal 2 0702	01-12-04	CAJ
6	01.20.04	Feeding 0815		CAJ
7	01.21.04	Termination 0955		CAJ

Parameter	Initiation		Renewal One		Renewal Two	
Analyst	CAJ	CAJ	CAJ	CAJ	CAJ	KEK
pH (S.U.)	7.83	7.92	7.80	8.24	7.47	7.80
DO (mg/L)	8.2	8.1	8.0	8.2	8.0	7.9
Conductivity (µmhos/cm)	159		153		156	
Alkalinity (mg $CaCO_3$/L)	34		35		~~X~~	
Hardness (mg $CaCO_3$/L)	43		44			
Temperature (°C)	25.2	24.4	25.0	24.7	25.0	24.6
	Initial	Final	Initial	Final	Initial	Final

Survival and Reproduction Data

Day		Replicate number											
		1	2	3	4	5	6	7	8	9	10	11	12
2	Adult mortality	L	L	L	L	L	L	L	L	L	L	L	L
5	Young produced	16X	19X	14X	16X	15X	16X	14X	15X	15X	18X	16X	16X
	Adult mortality	L	L	L	L	L	L	L	L	L	L	L	L
6 or 7	Young produced	17	18	15	18	19	18	19	19	18	15	17	17
Total young produced		33	37	29	34	34	34	33	34	33	33	33	33
Final Adult Mortality		L	L	L	L	L	L	L	L	L	L	L	L
X for 3rd Broods		X	X	X	X	X	X	X	X	X	X	X	X

Note: An X in the upper right corner of the number of young produced indicates the presence of two broods.

Environmental Testing Solutions, Inc.

Statistical Analyses

Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date:	14-Jan-03	Test ID:	CdPFCRNC	Sample ID:	Hanson Aggregates Southeast, Inc.
End Date:	21-Jan-03	Lab ID:	ETS-Env. Testing Solutions	Sample Type:	DMR-Discharge Monitoring Report
Sample Date		Protocol:	CHRONIC-(EPA-821-R-02-013)	Test Species:	CD-Ceriodaphnia dubia
Comments:					

Conc-%	1	2	3	4	5	6	7	8	9	10
D-Control	33.000	37.000	29.000	34.000	34.000	34.000	33.000	34.000	33.000	33.000
D-Control	33.000	33.000								
90	36.000	33.000	37.000	34.000	38.000	34.000	33.000	32.000	34.000	36.000
90	38.000	31.000								

			Transform: Untransformed					1-Tailed		
Conc-%	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD
D-Control	33.333	1.0000	33.333	29.000	37.000	5.326	12			
90	34.667	1.0400	34.667	31.000	38.000	6.662	12	-1.586	2.508	2.109

Auxiliary Tests	Statistic		Critical		Skew	Kurt
Shapiro-Wilk's Test indicates normal distribution (p > 0.01)	0.9521876		0.884		-0.1044407	0.21488206
F-Test indicates equal variances (p = 0.40)	1.69230771		5.31963444			
Hypothesis Test (1-tail, 0.01)	**MSDu**	**MSDp**	**MSB**	**MSE**	**F-Prob**	**df**
Homoscedastic t Test indicates no significant differences	2.10918578	0.06327557	10.6666667	4.24242424	0.12708889	1, 22
Treatments vs D-Control						

Environmental Testing Solutions, Inc.

North Carolina Chronic Pass/Fail Whole Effluent Toxicity Test
(EPA-821-R-02-013 Method 1002.0, NC Modification- February, 1998)
Species: *Ceriodaphnia dubia*

Paried with Control # 3 *Date* 01.14.04

Client:	Quantum Environmental, Inc	NPDES #: NC	0085243
Facility:	Nello Teer	County:	Durham
		Outfall/Pipe:	R&D
Comments:			

Full-strength chemistry:

Parameter	Sample 1	Sample 2
pH (S.U.)	8.34	8.44
DO (mg/L)	8.8	8.5
Conductivity (µmhos/cm)	658	653
Chlorine (mg/L)	<0.10	<0.10

Dilution preparation:

Test concentration:	90%
mL Sample:	270
mL Dilution water:	30

Sample information:

	Sample 1	Sample 2
Collection start date:	01.13.04	01-16-04
Collection end time:	1500	0920
Grab/Composite (duration):	GRAB	GRAB
Temperature (°C) upon receipt:	1.1°C	0.4°C
Physical characteristics:	PALE YELLOW PARTICLES	NO COLOR PARTICLES
ETS project number:	1020	
ETS sample number:	040114.05	040117.06

Test concentration chemistry:

Parameter	Initiation		Renewal One		Renewal Two	
Analyst	CAH	CAH	CAH	CAH	CAH	KEL
pH (S.U.)	8.34	8.73	8.41	8.78	8.46	8.74
DO (mg/L)	8.7	8.1	8.0	8.2	8.5	8.2
Conductivity (µmhos/cm)	609		606		598	
Temperature (°C)	25.2	24.5	25.1	24.7	25.2	24.6
	Initial	Final	Initial	Final	Initial	Final

Test Concentration: 90%

Survival and Reproduction Data

Day		Replicate number											
		1	2	3	4	5	6	7	8	9	10	11	12
2	Adult mortality	L	L	L	L	L	L	L	L	L	L	L	L
5	Young produced	18X	15X	20X	17X	18X	18X	17X	17X	19X	17X	19X	15X
	Adult mortality	L	L	L	L	L	L	L	L	L	L	L	L
6 or 7	Young produced	18	18	17	17	20	16	16	15	15	19	19	16
Total young produced		36	33	37	34	38	34	33	32	34	36	38	31
Final Adult Mortality		L	L	L	L	L	L	L	L	L	L	L	L

Note: An X in the upper right corner of the number of young produced indicates the presence of two broods.

Test results:	
% Mortality:	0%
Mean Offspring/Female:	34.7
% Reduction from control	-4.0%
Calculated *t*:	-1.506
Tabular *t*:	2.509
Pass or Fail	PASS

Environmental Testing Solutions, Inc.

Chronic Whole Effluent Toxicity Test (EPA-821-R-02-013, Method 1002.0)

Species: *Ceriodaphnia dubia*

Quality Control

Verification of Data Entry, Calculations, and Statistical Analyses

Client: Quantum Environmental - Hanson Aggregates Southeast,Inc.
Test dates: January 14 - 21, 2004
Project number: 1020

Reveiwed by: [signature]

Concentration (%)	Day	Number of young produced by replicate number												Survival (%)	Average reproduction (offspring/female)	Coefficient of variation (%)	Percent reduction from control (%)
		1	2	3	4	5	6	7	8	9	10	11	12				
Control	5	16	19	14	16	15	16	14	15	15	18	16	16				
	7	17	18	15	18	19	18	19	19	18	15	17	17	100	33.3	5.3	Not applicable
	Total	**33**	**37**	**29**	**34**	**34**	**34**	**33**	**34**	**33**	**33**	**33**	**33**				
90%	5	18	15	20	17	18	18	17	17	19	17	19	15				
	7	18	18	17	17	20	16	16	15	15	19	19	16	100	34.7	6.7	-4.0
	Total	**36**	**33**	**37**	**34**	**38**	**34**	**33**	**32**	**34**	**36**	**38**	**31**				

Dunnett's MSD value: 2.109
PMSD: 6.3

MSD = Minimum Significant Difference
PMSD = Percent Minimum Significant Difference

PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test. On average, a significant difference occurs for Environmental Testing Solutions, Inc. chronic toxicity tests when a toxicant reduces Ceriodaphnia reproduction by **10.0%** from the control.

Lower PMSD bound determined by USEPA (10^{th} percentile) = 11%.

Upper PMSD bound determined by USEPA (90^{th} percentile) = 37%.

The lower and upper bounds were calculated by the USEPA using 393 tests conducted from 33 laboratories for Ceriodaphnia reproduction in chronic reference toxicant tests.

USEPA. 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination Program. EPA-833-R-00-003. US Environmental Protection Agency, Cincinnati, OH.

Chain-of-Custody Forms

AQUATIC TOXICOLOGY LABORATORY
CHAIN-OF-CUSTODY AND FIELD ANALYSIS FORM

Environmental Testing Solutions, LLC
351 Depot Street
Asheville, NC 28801
Phone: (828) 350-9364
Fax: (828) 350-9368

CLIENT / FACILITY NAME: Quantum Environmental, Inc. Hanson Aggregates Southeast, Inc. (Nello Teer)	PURCHASE ORDER #:
COUNTY: Durham	STATE: NC
NPDES PERMIT #: [redacted] TEST	OUTFALL / PIPE #: 001 - with Latex gloves

INFORMATION ON THIS FORM IS REQUIRED BY STATE AND FEDERAL AGENCIES.

TEST REQUIREMENTS (Please check the appropriate test type and species required.)

Test type

- [ ] Acute, circle the appropriate test duration: 24 48 96 hours
- [X] Chronic, 7-days
- [X] Pass / Fail, dilution required: 90%
- [ ] Full Range Definitive, dilutions required: _____
- [ ] Other, specify: _____

Species

- [X] *Ceriodaphnia dubia* (Water flea)
- [ ] *Pimephales promelas* (Fathead minnow)
- [ ] *Daphnia pulex*
- [ ] *Cyprinodon variegatus* (Sheepshead minnow)
- [ ] *Menidia beryllina* (Inland silverside)
- [ ] *Mysidopsis bahia* (Mysid shrimp)
- [ ] Other, specify: _____

SAMPLE TYPE

Composite sample

Start date:	Start time:
End date:	End time:
Samples per hour:	
Chilled during collection?: Y	
If chilled, specify temperature: (	

Grab sample

Date: 1/13/04	Time: 1500

Sample information

Sample location: (after chlorination, above outfall, at weir, effluent outfall, etc.) Effluent outfall 001.	
Approximate volume collected for testing:	1-Liter
Number of containers filled for testing:	1
Total residual chlorine (mg/L):	NA
Temperature at time of collection (°C):	
Method of transport to ETS:	Fed-ex

Note: Rinse containers with the sample before filling. Pack sample in loose ice. Samples must be received at ETS at or below 4°C. Sample should not be frozen.

REMARKS

SAMPLE CUSTODY

Sample collected by:

PRINT	SIGNATURE	DATE AND TIME
michael Dwyer	[signature]	1/13/04 1500

Relinquished by:

PRINT	SIGNATURE	DATE AND TIME
michael Dwyer	[signature]	1550/1/13/04

Relinquished to ETS by:

PRINT	SIGNATURE	DATE AND TIME
Fed ex		01-14-04 0942

FOR OFFICE USE ONLY	PROJECT #: 1020
CLIENT ID#: QUANTUM	SAMPLE #: 040114.05

Received by:

PRINT	SIGNATURE	DATE AND TIME
Fed ex		01-13-04

Received at ETS by:

PRINT	SIGNATURE	DATE AND TIME
KEKeenan	KEKeenan	01-14-04 0942

Sample temperature upon receipt at ETS (° C): 1.1°C

AQUATIC TOXICOLOGY LABORATORY
CHAIN-OF-CUSTODY AND FIELD ANALYSIS FORM

Environmental Testing Solutions, LLC
351 Depot Street
Asheville, NC 28801
Phone: (828) 350-9364
Fax: (828) 350-9368

CLIENT / FACILITY NAME: Quantum Environmental, Inc. Hanson Aggregates Southeast, Inc. (Nello Teer)	PURCHASE ORDER #:
COUNTY: Durham	STATE: NC
NPDES PERMIT #: ~~NC0085243~~ Test	OUTFALL / PIPE #: 001 - with Latex gloves

INFORMATION ON THIS FORM IS REQUIRED BY STATE AND FEDERAL AGENCIES.

TEST REQUIREMENTS (Please check the appropriate test type and species required.)

Test type

- [ ] Acute, circle the appropriate test duration: 24 48 96 hours
- [X] Chronic, 7-days
- [X] Pass / Fail, dilution required: 90%
- [ ] Full Range Definitive, dilutions required: _____
- [ ] Other, specify: _____

Species

- [X] *Ceriodaphnia dubia* (Water flea)
- [ ] *Pimephales promelas* (Fathead minnow)
- [ ] *Daphnia pulex*
- [ ] *Cyprinodon variegatus* (Sheepshead minnow)
- [ ] *Menidia beryllina* (Inland silverside)
- [ ] *Mysidopsis bahia* (Mysid shrimp)
- [ ] Other, specify: _____

SAMPLE TYPE

Composite sample

Start date:	Start time:
End date:	End time:
Samples per hour:	
Chilled during collection?:	
If chilled, specify temperature:	

Grab sample

Date: 1/16/04	Time: 0920

Sample information

Sample location: (after chlorination, above outfall, at weir, effluent outfall, etc.) Effluent outfall 001.	
Approximate volume collected for testing:	1-Liter
Number of containers filled for testing:	1
Total residual chlorine (mg/L):	NA
Temperature at time of collection (°C):	
Method of transport to ETS:	Fed-ex

Note: Rinse containers with the sample before filling. Pack sample in loose ice. Samples must be received at ETS at or below 4°C. Sample should not be frozen.

REMARKS This is just a test.

SAMPLE CUSTODY

Sample collected by:

PRINT	SIGNATURE	DATE AND TIME
Michael Dwyer		1/16/04 0920

Relinquished by:

PRINT	SIGNATURE	DATE AND TIME
Mike Dwyer		1/16/04 1415

Relinquished to ETS by:

PRINT	SIGNATURE	DATE AND TIME
Fed Ex		01-17-04

FOR OFFICE USE ONLY	PROJECT #: 1020
CLIENT ID#: QUANTUH	SAMPLE #: 040117.06

Received by:

PRINT	SIGNATURE	DATE AND TIME
Fed Ex		01-16-04

Received at ETS by:

PRINT	SIGNATURE	DATE AND TIME
K Keenan	K Keenan	01-17-04 0947

Sample temperature upon receipt at ETS (°C): 0.4C

Reference Toxicant Control Charts

Environmental Testing Solutions, Inc.

Sodium Chloride Chronic Reference Toxicant Control Chart
for *Ceriodaphnia dubia*
using Moderately Hard Synthetic Water

Test number	Test date	7-day IC_{25} (g/L NaCl)	CT (g/L NaCl)	S	State and USEPA Control Limits CT - 2S	CT + 2S	$S_{A.10}$	Laboratory Warning Limits CT - $S_{A.10}$	CT + $S_{A.10}$	$S_{A.25}$	Laboratory Control Limits CT - $S_{A.25}$	CT + $S_{A.25}$	$S_{A.75}$	USEPA Warning Limits CT - $S_{A.75}$	CT + $S_{A.75}$	$S_{A.90}$	USEPA Control Limits CT - $S_{A.90}$	CT + $S_{A.90}$	CV
1	11-05-02	1.03																	
2	12-03-02	1.02	1.03	0.01	1.00	1.05	0.08	0.94	1.11	0.17	0.85	1.20	0.46	0.56	1.49	0.64	0.39	1.66	0.01
3	12-03-02	1.03	1.03	0.01	1.01	1.05	0.08	0.95	1.11	0.17	0.85	1.20	0.46	0.57	1.49	0.64	0.39	1.66	0.01
4	12-04-02	1.02	1.02	0.01	1.01	1.04	0.08	0.94	1.11	0.17	0.85	1.20	0.46	0.56	1.49	0.64	0.39	1.66	0.01
5	12-06-02	1.03	1.03	0.01	1.01	1.04	0.08	0.94	1.11	0.17	0.85	1.20	0.46	0.56	1.49	0.64	0.39	1.66	0.01
6	12-11-02	1.04	1.03	0.01	1.01	1.04	0.08	0.95	1.11	0.17	0.85	1.20	0.46	0.57	1.49	0.64	0.39	1.66	0.01
7	12-18-02	1.04	1.03	0.01	1.01	1.05	0.08	0.95	1.11	0.18	0.85	1.20	0.46	0.57	1.49	0.64	0.39	1.67	0.01
8	01-07-03	0.96	1.02	0.03	0.97	1.07	0.08	0.94	1.10	0.17	0.85	1.19	0.46	0.56	1.48	0.63	0.39	1.65	0.02
9	02-04-03	0.99	1.02	0.03	0.97	1.07	0.08	0.94	1.10	0.17	0.84	1.19	0.46	0.56	1.48	0.63	0.39	1.65	0.03
10	03-05-03	1.05	1.02	0.03	0.97	1.07	0.08	0.94	1.10	0.17	0.85	1.19	0.46	0.56	1.48	0.63	0.39	1.65	0.03
11	04-08-03	1.03	1.02	0.03	0.97	1.07	0.08	0.94	1.10	0.17	0.85	1.20	0.46	0.56	1.48	0.63	0.39	1.65	0.03
12	05-06-03	1.05	1.02	0.03	0.97	1.07	0.08	0.94	1.11	0.17	0.85	1.20	0.46	0.56	1.48	0.63	0.39	1.66	0.03
13	06-04-03	1.07	1.03	0.03	0.97	1.08	0.08	0.94	1.11	0.17	0.85	1.20	0.46	0.56	1.49	0.64	0.39	1.66	0.03
14	07-08-03	1.03	1.03	0.03	0.97	1.08	0.08	0.95	1.11	0.17	0.85	1.20	0.46	0.56	1.49	0.64	0.39	1.66	0.03
15	08-05-03	1.04	1.03	0.03	0.98	1.08	0.08	0.95	1.11	0.17	0.85	1.20	0.46	0.57	1.49	0.64	0.39	1.67	0.02
16	09-10-03	1.05	1.03	0.03	0.98	1.08	0.08	0.95	1.11	0.17	0.85	1.20	0.46	0.57	1.49	0.64	0.39	1.67	0.02
17	10-07-03	1.02	1.03	0.02	0.98	1.08	0.08	0.95	1.11	0.17	0.85	1.20	0.46	0.57	1.49	0.64	0.39	1.67	0.02
18	11-04-03	1.08	1.03	0.03	0.98	1.08	0.08	0.95	1.11	0.18	0.86	1.21	0.46	0.57	1.50	0.64	0.39	1.67	0.03
19	12-04-03	1.08	1.03	0.03	0.98	1.09	0.08	0.95	1.12	0.18	0.86	1.21	0.47	0.57	1.50	0.64	0.39	1.68	0.03
20	01-06-04	1.06	1.04	0.03	0.98	1.09	0.08	0.95	1.12	0.18	0.86	1.21	0.47	0.57	1.50	0.64	0.39	1.68	0.03

Note: 7-d IC_{25} = 7-day 25% inhibition concentration. An estimation of the concentration of sodium chloride that would cause a 25% reduction in *Ceriodaphnia* reproduction for the test population.

CT = Central tendency (mean IC_{25}).

S = Standard deviation of the IC_{25} values.

Laboratory Control and Warning Limits

Laboratory control and warning limits were established using the standard deviation of the IC_{25} values corresponding to the 10th and 25th percentile CVs. These ranges are more stringent than the control and warning limits recommended by USEPA for the test method and endpoint.

$S_{A.10}$ = Standard deviation corresponding to the 10^{th} percentile CV. ($S_{A.10} = 0.08$)

$S_{A.25}$ = Standard deviation corresponding to the 25^{th} percentile CV. ($S_{A.25} = 0.17$)

USEPA Control and Warning Limits

$S_{A.75}$ = Standard deviation corresponding to the 75^{th} percentile CV. ($S_{A.75} = 0.45$)

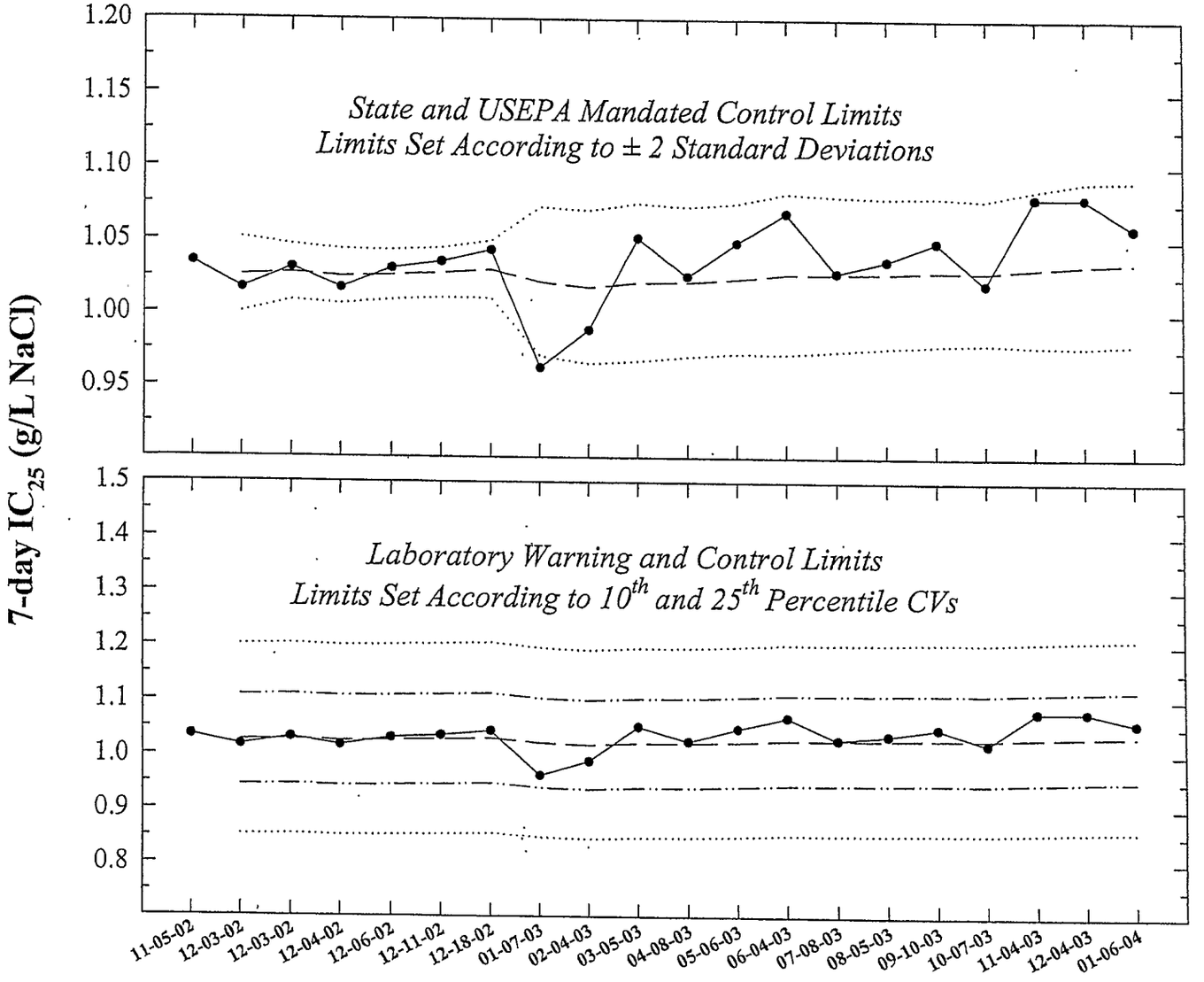
$S_{A.90}$ = Standard deviation corresponding to the 90^{th} percentile CV. ($S_{A.90} = 0.62$)

CV = Coefficient of variation of the IC_{25} values.

USEPA. 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination Program. EPA-833-R-00-003. US Environmental Protection Agency, Cincinnati, OH.

Environmental Testing Solutions, Inc.

Sodium Chloride Chronic Reference Toxicant Control Chart
for *Ceriodaphnia dubia*
using Moderately Hard Synthetic Water



Test date

—•— **7-day IC_{25}** = 25% inhibition concentration. An estimation of the concentration of sodium chloride that would cause a 25% reduction in *Ceriodaphnia* reproduction for the test population.

— — **Central Tendency** (mean IC_{25})

—·—·— **Warning Limits** (mean $IC_{25} \pm S_{A.10}$)

····· **Control Limits** (mean $IC_{25} \pm S_{A.25}$ or 2 Standard Deviations)

Environmental Testing Solutions, Inc.

Precision of Endpoint Measurements

Sodium Chloride Chronic Reference Toxicant Data for *Ceriodaphnia dubia* using Moderately Hard Synthetic Water

Test number	Test date	Control Survival (%)	Control Mean Reproduction (offspring/female)	CT for Control Mean Reproduction (offspring/female)	CV (%)	CT for Control Reproduction CV (%)	MSD	PMSD (%)	CT for PMSD (%)
1	11-05-02	100	29.5		9.2		2.5	8.4	
2	12-03-02	90	34.0	31.8	8.0	8.6	2.7	8.0	8.2
3	12-03-02	100	33.2	32.2	6.2	7.8	3.3	9.9	8.8
4	12-04-02	100	32.5	32.3	6.0	7.3	3.2	9.8	9.0
5	12-06-02	100	29.7	31.8	11.0	8.1	3.0	10.0	9.2
6	12-11-02	100	33.8	32.1	13.7	9.0	2.9	8.5	9.1
7	12-18-02	100	30.5	31.9	7.4	8.8	2.9	9.4	9.1
8	01-07-03	100	33.2	32.1	7.0	8.5	2.9	8.6	9.1
9	02-04-03	100	32.3	32.1	8.1	8.5	2.7	8.4	9.0
10	03-05-03	100	28.7	31.7	5.1	8.2	3.5	12.1	9.3
11	04-11-03	100	26.3	31.2	6.2	8.0	2.5	9.6	9.3
12	05-06-03	100	27.6	30.9	10.8	8.2	3.2	11.5	9.5
13	06-04-03	100	25.9	30.6	5.9	8.0	2.6	10.1	9.6
14	07-08-03	100	29.0	30.4	11.6	8.3	3.2	10.9	9.7
15	08-05-03	100	33.3	30.6	6.6	8.2	4.7	14.1	9.9
16	09-10-03	100	29.3	30.6	4.3	7.9	3.1	10.7	10.0
17	10-07-03	100	33.4	30.7	8.0	7.9	3.2	9.5	10.0
18	11-04-03	100	31.0	30.7	7.3	7.9	2.6	8.3	9.9
19	12-04-03	100	30.4	30.7	9.7	8.0	3.6	11.8	10.0
20	01-06-04	100	30.6	30.7	4.4	7.8	3.5	11.5	10.0

Note:

CV = Coefficient of variation for control reproduction.
On average, the CV for control reproduction is 7.8% in Environmental Testing Solutions, Inc. *Ceriodaphnia* chronic toxicity tests.
Lower CV bound determined by USEPA (10^{th} percentile) = 8.9%.
Upper CV bound determined by USEPA (90^{th} percentile) = 42%

MSD = Minimum Significant Difference

PMSD = Percent Minimum Significant Difference
PMSD is a measure of test precision. The PMSD is the minimum percent difference between the control and treatment that can be declared statistically significant in a whole effluent toxicity test. On average, a significant difference occurs for Environmental Testing Solutions, Inc. chronic toxicity tests when a toxicant reduces *Ceriodaphnia* reproduction by 10.0% from the control.
Lower PMSD bound determined by USEPA (10^{th} percentile) = 11%.
Upper PMSD bound determined by USEPA (90^{th} percentile) = 37%.

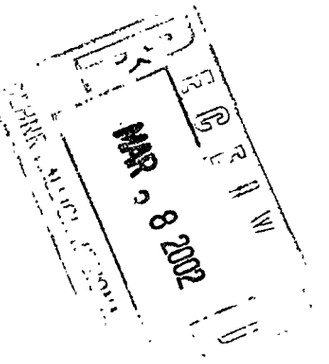
CT = Central Tendancy (Mean Control Reproduction, CV, or PMSD)

The lower and upper bounds were calculated by the USEPA using 393 tests conducted from 33 laboratories for *Ceriodaphnia* reproduction in chronic reference toxicant tests.

USEPA. 2000. Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination Program. EPA-833-R-00-003. US Environmental Protection Agency, Cincinnati, OH.

Quantum Environmental, Inc.

March 6, 2002



Mr. Eric Rice
NC Dept. of Environment and Natural Resources
Groundwater Section
Raleigh Regional Office
1628 Mail Service Center
Raleigh, North Carolina 27699-1628

Re: Well Abandonment Request
Former Nello Teer Quarry Site

Dear Eric:

Please find enclosed the following request for the abandonment of eight groundwater monitoring wells at the above referenced site. These wells are: MW-3, MW-19, MW-16I, MW-22, MW-1, MW-7, MW-14I and MW-24. The client had requested that MW-3 and 19 be abandoned immediately; however a review of the site and current plume maps indicate that eight wells are suitable for abandonment. MW-22, the only well which has indicated concentrations above 2L Standards, has not shown detectable concentrations since 1994. Almost all of these wells have never shown any detectable concentrations throughout the monitoring history at the site, and are well outside current plume boundaries. Neither MW-1 nor MW-7 has ever shown any indication of chlorinated contaminants in the groundwater (MW-7 once had 5 ug/l MTBE in 1999). I understand any hesitancy you may have about closing either MW-1 or MW-7, since they are both relatively close to the chlorinated plume, and I would understand if the Groundwater Section did not approve the request to abandon these two wells. Mark Powers thought the other wells were OK.

I am going to recommend to the client that we complete two new shallow monitoring wells during the HRC injection event drilling, one upgradient and one downgradient around the injection area to assist in tracking the contamination reduction. I can understand the State's reluctance to require any additional wells; however, two more shallow wells would certainly assist in monitoring.

I have included the complete monitoring history for the monitoring wells at the site through December 2001, as well as a site map with the proposed wells highlighted. Let me know if you need any additional materials. Sorry I did not get you a copy of this request. You may reach me at 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Charles C. Ross, L.G.
Project Hydrogeologist

Enclosures: Site Map, Groundwater Analytical results

L02-052:CCR

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

N

QUARRY
PIT

APPROXIMATE
LOCATION OF FORMER
ASPHALT PLANT

MW-18
RW-6
MW-26
MW-25
RW-5
RW-9
MW-13
MW-14I
ELECTRICAL
SHOP
WASTE
OIL
TRUCK
SHOP
RW-7
MW-7
MW-1
MW-11
APPROXIMATE
LOCATION OF
FORMER TANKS
MW-17
RW-1
MW-19
MW-20D
RW-4
MW-15I
MW-24
RW-3
RW-8
MW-23
RW-2
SCALE
HOUSE
MW-3
MW-16I
MW-22
OLD SERVICE
STATION
MW-9
OFFICE
DENFIELD STREET

50' POWER & WATER EASEMENT
CONTAINING A 24" &
A 42" WATER MAIN

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION

= well recommended for abandonment

Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Rd, Suite 108 Raleigh, North Carolina 27607
Phone 919.852.3595 Fax 919.852.1997

FIGURE 2

WELL LOCATION MAP
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012
SCALE: 1"= 110'

DWN	CHK	CLIENT APPROVAL
DATE	DATE	DATE
6		

Table 1 **Well and Water Level Data**
December 1999 Sampling Event
Teer Quarry, Denfield St., Durham, NC

Well #	Top of Casing Elevation[a]	Screen Interval[b]	Depth to Water[c]	Water Table Elevation[a]	Purge Volume[d] (gallons)
MW-1	329.5	20.0 - 35.0	**23.00**	306.5	5
MW-3	337.32	15.0 - 62.0	**33.77**	303.55	0
MW-7	329.26	9.0 - 14.0	**12.12**	317.14	2
MW-9	333.65	25.0 - 40.0	**35.80**	297.85	0
MW-11	327.87	35.0 - 50.0	**47.11**	280.76	1
MW-13	326.48	50.0 - 65.0	**44.66**	281.82	10
MW-14S	327.09	5.0 - 20.0	**19.61**	307.48	0
MW-14I	327.13	34.0 - 49.0	**19.61**	307.52	6
MW-15I	329.53	25.0 - 40.0	**26.90**	302.63	.25
MW-16S	333.91	3.0 - 13.0	**11.22**	322.69	0 (dry)
MW-16I	330.8	46.0 - 61.0	**42.25**	288.55	9.25
MW-17	327.59	2.5 - 12.5	**4.03**	323.56	1.5 (dry)
MW-18	328.43	3.0 - 10.0	**4.99**	323.44	3
MW-19	331.96[e]	2.0 - 10.0	**6.79**	325.17	0
MW-20D	329.58	110.0 - 115.0	**52.30**	277.28	31
MW-22	334.19	30.0 - 60.0	**41.78**	292.41	8.75
MW-23	331.87	25.0 - 60.0	**36.51**	295.36	2
MW-24	337.56	16.0 -36.0	**20.74**	316.82	5.5
MW-25	328.92	4.0 - 14.0	**7.35**	321.57	2.5
MW-26	328.92	3.0 - 13.0	**5.31**	323.61	8.5

[a] surveyed elevation, referenced to mean sea level
[b] feet below land surface
[c] feet below top of casing
[d] gallons
[e] Well casing extended and resurveyed

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-1

Constituent	Date												2L Standard
	5/20/1993 (1)	8/29/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/11/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/99	12/7/00	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	1.00
Toluene	0.70	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	21.00
MTBE	BDL	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	NS	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	NS	0.07
Total VOCs	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Lead	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	15.00

RW-2 (former MW-2)

Constituent	Date								2L Standard
	5/7/1993 (1)	5/20/1993 (1)	8/29/1994 (2)	08/29/99	06/15/00	01/23/01	06/15/01	12/28/01	
Benzene	**575.00**	**353.00**	**95.00**	**6.80**	BDL	**1.60**	NS	BDL	1.00
Toluene	**1,160.00**	418.00	19.00	BDL	1.70	BDL	NS	BDL	1000.00
Ethylbenzene	**84.40**	BDL	**62.00**	BDL	1.00	2.40	NS	BDL	29.00
Xylenes	**1,425.00**	106.00	61.00	BDL	13.00	1.10	NS	BDL	530.00
Naphthalene	NA	NA	2.78	BDL	BDL	BDL	NS	NS	21.00
MTBE	NA	BDL	NA	BDL	BDL	BDL	NS	3.00	200.00
EDB	NA	BDL	NA	BDL	BDL	BDL	NS	NS	70.00
IPE	NA	BDL	NA	BDL	BDL	BDL	NS	NS	0.07
Total VOCs	2,200.40	877.00	239.78	6.80	15.70	5.10	NS	3.00	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	NS	NS	700.00
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	NS	NS	2.80
cis-,1,2-Dichloroethylene	NA	NA	**90.00**	BDL	6.50	2.60	NS	NS	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	NS	NS	0.02
Total CVOCs	0.00	0.00	90.00	0.00	6.50	2.60	NS	NS	
Lead	<0.05	0.20	NA	NA	NA	NS	NS	NS	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-3

Constituent	Date				2L Standard
	5/21/1993 (1)	8/29/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	BDL	BDL	NA	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	
Lead	0.056	NA	NA	NA	15.00

MW-4

Constituent	Date	2L Standard
	5/18/1993 (1)	
Benzene	BDL	1.00
Toluene	0.70	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	BDL	21.00
MTBE	BDL	200.00
EDB	BDL	70.00
IPE	BDL	0.07
Total VOCs	0.00	
1,1-Dichloroethane	BDL	700.00
Trichloroethene	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	70.00
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	0.50	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-5

Constituent	Date		2L Standard
	5/7/1993 (1)	5/20/1993 (1)	
Benzene	BDL	BDL	1.00
Toluene	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	29.00
Xylenes	BDL	BDL	530.00
Naphthalene	NA	BDL	21.00
MTBE	NA	BDL	200.00
EDB	NA	BDL	70.00
IPE	NA	BDL	0.07
Total VOCs	0.00	0.00	
1,1-Dichloroethane	NA	BDL	700.00
Trichloroethene	NA	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	70.00
Vinyl Chloride	NA	BDL	0.02
Total CVOCs	0.00	0.00	
Lead	NA	0.07	15.00

MW-6

Constituent	Date	2L Standard
	5/21/1993 (1)	
Benzene	BDL	1.00
Toluene	BDL	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	BDL	21.00
MTBE	BDL	200.00
EDB	BDL	70.00
IPE	BDL	0.07
Total VOCs	0.00	
1,1-Dichloroethane	BDL	700.00
Trichloroethene	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	70.00
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	0.03	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-7

Constituent	Date											2L Standard
	5/21/1993 (1)	8/29/1994 (2)	1/26/1995 (2)	8/29/95 (2)	4/27/1995(2)	3/14/96 (2)	10/11/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	12/7/2000 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	21.00
MTBE	BDL	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.1	NS	200.00
EDB	BDL	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	BDL	NS	70.00
IPE	BDL	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	BDL	NS	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.10		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Lead	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	15.00

MW-8

Constituent	Date	2L Standard
	5/19/1993 (1)	
Benzene	BDL	1.00
Toluene	BDL	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	BDL	21.00
MTBE	BDL	200.00
EDB	BDL	70.00
IPE	BDL	0.07
Total VOCs	0.00	
1,1-Dichloroethane	BDL	700.00
Trichloroethene	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	70.00
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	<0.05	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-9

Constituent	Date				2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	BDL	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	1.30	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	1.30	
Lead	<0.05	NA	NA	NA	15.00

MW-11

Constituent	Date											2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/13/96 (2)	10/9/96 (2)	12/3/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/99	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	NA	NA	1.30	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00	
1,1-Dichloroethane	0.60	BDL	BDL	BDL	BDL	2.40	BDL	3.00	2.20	1.00	BDL	700.00
Trichloroethene	BDL	BDL	2.50	1.80	BDL	1.60	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	22.90	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.60	0.00	2.50	24.70	0.00	4.00	0.00	3.00	2.20	1.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-12

Constituent	Date				2L Standard
	9/9/1993 (1)	8/30/1994(2)	1/26/1995(2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	15.00

MW-13

Constituent	Date														2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995(2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/3/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	12/7/00	6/13/01	12/28/01	
Benzene	BDL	**3.10**	BDL	BDL	**1.13**	**3.40**	BDL	**1.00**	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	2.83	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	2.63	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	3.20	2.00	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	23.10	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	29.69	3.40	0.00	4.20	2.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	4.40	6.00	7.90	13.20	2.06	2.40	2.67	11.00	7.90	3.30	6.4	3.7	5.2	4	700.00
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	3.80	BDL	2.70	BDL	BDL	2.2	BDL	BDL	BDL	200.00
Trichloroethene	BDL	**5.10**	BDL	**4.10**	BDL	**2.90**	**3.02**	2.40	BDL	2.40	2.8	BDL	1.30	1.40	2.80
1,1-Dichloroethene	BDL	BDL	BDL	2.30	BDL	3.00	BDL	2.50	1.70	1.70	4.2	2.2	3.8	1	7.00
cis-,1,2-Dichloroethylene	BDL	3.40	BDL	3.40	2.48	4.10	BDL	BDL	BDL	2.70	2.2	2.3	2.1	2.1	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	**1.40**	BDL	BDL	**1.20**	BDL	BDL	BDL	**1.20**	**1.00**	0.02
Total CVOCs	4.40	14.50	7.90	23.00	57.33	21.00	5.69	18.60	10.80	10.10	17.80	8.20	13.60	9.50	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-14S

Constituent	Date										2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)		
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Dry well -	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	1.17	BDL	BDL	No samples	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	for 1999	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	2.10	BDL	BDL	ell abandoned	21.00
MTBE	BDL	NA	NA	BDL	**507.00**	BDL	BDL	4.10	2.20	36678.00	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA		70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA		0.07
Total VOCs	0.00	0.00	0.00	0.00	507.00	0.00	3.27	4.10	2.20		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	3.27	0.00	0.00		
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA		15.00

MW-14I

Constituent	Date												2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/15/96 (2)	10/9/96 (2)	12/3/1997 (3)	5/13/98 (3)	6/17/99 (4)	Dec-99	Dec-00	Jun-01	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	BDL	BDL	BDL	BDL	NS	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	NS	BDL	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	NS	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NS	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	NS	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-15S

Constituent	Date					2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/30/95 (2)	
Benzene	**10.70**	**17.50**	BDL	BDL	BDL	1.00
Toluene	8.80	2.60	BDL	BDL	BDL	1000.00
Ethylbenzene	**76.40**	**147.00**	**43.00**	**56.30**	**77.70**	29.00
Xylenes	NA	430.00	170.00	188.00	205.00	530.00
Naphthalene	13.00	**63.30**	**60.90**	**53.40**	**27.60**	21.00
MTBE	8.30	NA	NA	NA	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	0.07
Total VOCs	117.20	660.40	273.90	297.70	310.30	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	15.00

MW-15I

Constituent	Date													2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	6/7/2000 (4)	6/15/01	
Benzene	BDL	BDL	BDL	BDL	**2.16**	BDL	BDL	BDL	**1.30**	**4.80**	**2.5**	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	2.70	3.40	1.90	BDL	BDL	BDL	BDL	BDL	1.20	BDL	BDL	BDL	29.00
Xylenes	BDL	3.60	9.00	BDL	BDL	BDL	BDL	BDL	BDL	1.90	4.4	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.20	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	BDL	44.60	BDL	BDL	12.00	13.00	BDL	6.1	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	**5.70**	NA	NA	NA	NA	BDL	BDL	NA	BDL	0.07
Total VOCs	BDL	6.30	12.40	1.90	52.46	0.00	0.00	12.00	15.20	8.90	10.50	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NS	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-16S

Constituent	Date							2L Standard	
	9/9/1993 (1)	8/30/1994 (2)	1/25/95 (2)	4/27/1995 (2)	3/14/96 (2)	10/9/96 (2)	5/13/98 (3)		
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	Dry Well
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00	no 1999 samples
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00	
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00	Well abandoned - June 2000
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00	
MTBE	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00	
EDB	BDL	NA	NA	NA	NA	NA	NA	70.00	
IPE	BDL	NA	NA	NA	NA	NA	NA	0.07	
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00	
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80	
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00	
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02	
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Lead	<0.05	NA	NA	NA	NA	NA	NA	15.00	

MW-16I

Constituent	Date										2L Standard	
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	3/14/96 (2)	10/9/96 (2)	12/1/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/99		
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	Well removed from
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000	active monitoring network
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29	in June, 2000
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530	
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21	
MTBE	BDL	NA	NA	NA	NA	NA	BDL	BDL	BDL	BDL	200	
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	70	
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	0.07	
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700	
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	1.1	BDL	BDL	BDL	2.8	
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70	
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02	
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	1.1	0.00	0.00	0.00		
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	15	

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-17

Constituent	Date														2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/13/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/99	6/7/00	6/15/01	12/28/01	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	21.00
MTBE	BDL	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	BDL	NA	NA	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	NA	NA	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	17.10	BDL	15.50	23.30	23.40	10.40	9.33	7.40	7.20	6.00	7.3	2.6	1.9	1.9	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	3.80	2.10	2.92	1.30	BDL	BDL	BDL	1.00	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	**2.20**	**38.90**	**63.00**	BDL	**23.40**	**35.30**	**21.70**	BDL	**2.60**	**5.00**	**5.7**	**1.70**	**2.50**	**2.00**	0.02
Total CVOCs	19.30	38.90	82.30	25.40	49.72	47.00	31.03	7.40	9.80	12.00	13.00	4.30	6.30	3.90	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-18

Constituent	Date														2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/99	6/7/00	6/15/01	1/2/02	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	1.00
Toluene	1.30	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	21.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	BDL	NA	NA	0.07
Total VOCs	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	
1,1-Dichloroethane	48.10	BDL	BDL	97.90	71.30	5.80	10.60	12.00	1.50	BDL	1.40	BDL	2.30	1.90	700.00
1,2-Dichloroethane	BDL	BDL	**27.00**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.38
1,1-Dichloroethene	BDL	BDL	3.90	BDL	1.93	BDL	BDL	1.70	BDL	BDL	BDL	BDL	BDL	BDL	7.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	4.80	1.40	3.73	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.40	2.50	70.00
Vinyl Chloride	**10.90**	BDL	**50.00**	BDL	**58.90**	**16.30**	**10.90**	**8.10**	**2.30**	BDL	**3.80**	BDL	**4.70**	**1.60**	0.02
Chloroethane	BDL	BDL	**50.00**	BDL	**59.00**	**9.50**	BDL	**1.30**	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Total CVOCs	59.00	0.00	135.70	99.30	194.86	31.60	21.50	23.10	3.80	0.00	5.20	0.00	13.60	6.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-19

Constituent	Date								2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	15.00

MW-20S

Constituent	Date						2L Standard	
	9/9/1993 (1)	8/30/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/14/96 (2)		
Benzene	**15.00**	**64.40**	**44.00**	**71.80**	**64.40**	**64.90**	1.00	
Toluene	1.80	9.50	6.20	BDL	26.00	2.40	1000.00	
Ethylbenzene	BDL	16.38	7.00	14.60	25.30	5.90	29.00	Well no longer
Xylenes	BDL	21.00	16.70	20.60	80.70	17.00	530.00	exists
Naphthalene	BDL	3.84	3.29	4.90	BDL	4.50	21.00	
MTBE	7.30	BDL	BDL	BDL	9.69	BDL	200.00	
EDB	BDL	NA	NA	NA	BDL	NA	70.00	
IPE	14.20	NA	NA	NA	**50.00**	NA	0.07	
Total VOCs	38.30	115.12	77.19	111.90	256.09	94.70		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	700.00	
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	2.80	
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	70.00	
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	0.02	
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00		
Lead	<0.05	NA	NA	NA	NA	NA	15.00	

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-20D

Constituent	Date														2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/15/96 (2)	10/11/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	12/7/00	6/14/01	1/2/02	
Benzene	**15.00**	**30.00**	**22.00**	**29.80**	**30.30**	**20.00**	**21.60**	**16.00**	**13.00**	**12.30**	**1.80**	**1.50**	BDL	**1.80**	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.10	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.40	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	6.20	NA	NA	NA	BDL	NA	NA	5.70	4.30	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	70.00
IPE	14.20	NA	NA	NA	**26.60**	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	0.07
Total VOCs	35.40	30.00	22.00	29.80	56.90	20.00	21.60	26.20	17.30	12.30	1.80	1.50	0.00	1.80	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	8.00	BDL	5.20	5.47	4.00	BDL	BDL	BDL	1.10	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	**4.30**	BDL	**1.70**	**3.20**	**3.00**	BDL	BDL	**1.20**	**2.30**	0.02
Total CVOCs	0.00	8.00	0.00	5.20	5.47	8.30	0.00	1.70	3.20	4.10	0.00	0.00	1.20	2.30	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-21

Constituent	Date					2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	3/15/96 (2)	
Benzene	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	200.00
EDB	BDL	NA	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-22

Constituent	Date												2L Standard	
	4/28/1994 (1)	8/30/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/99	12/7/00		
Benzene	**9.40**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	1.00	
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	1000.00	
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	29.00	Well
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	530.00	Removed
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	21.00	from
MTBE	BDL	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	NS	200.00	monitoring
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	NS	70.00	network
IPE	**8.00**	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	NS	0.07	Jun-00
Total VOCs	17.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	700.00	
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	2.80	
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	70.00	
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	0.02	
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	15.00	

MW-23

Constituent	Date														2L Standard
	4/28/1994 (1)	8/30/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	12/7/2000 (4)	06/13/2001	12/28/02 (4)	
Benzene	**21.00**	**68.40**	**36.00**	**67.90**	**58.90**	**56.40**	**69.70**	**42.00**	**23.00**	**37.10**	**14.3**	**28**	**11.6**	**37**	1.00
Toluene	BDL	13.00	BDL	14.50	18.60	9.90	4.52	BDL	6.70	7.50	1.9	1.8	1.5	4.6	1000.00
Ethylbenzene	BDL	**46.50**	14.00	**40.40**	**30.70**	14.90	11.30	BDL	9.60	19.10	2.3	16.7	BDL	**38.9**	29.00
Xylenes	BDL	100.00	40.00	95.30	77.30	24.70	35.50	41.00	40.00	39.60	18	6.6	BDL	30.6	530.00
Naphthalene	BDL	**33.70**	**42.50**	**42.90**	19.10	**32.00**	11.70	BDL	9.10	12.00	BDL	BDL	BDL	**24.70**	6.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	BDL	5.40	BDL	8.8	3.00	NA	7.20	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	70.00
IPE	15.00	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	0.07
Total VOCs	36.00	216.60	132.50	261.00	204.60	137.90	132.72	83.00	93.80	115.30	45.30	47.10	13.00	111.10	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
1,2-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**1.30**	BDL	**1.00**	**1.30**	BDL	0.38
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	1.00	1.30	0.00	
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-24

Constituent	Date										2L Standard
	4/28/1994 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**2.60**	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.00	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.80	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	1.20	1.80	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	1.20	15.20	0.00	0.00	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00	0.00	
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-25

Constituent	Date														2L Standard
	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	6/8/2000 (4)	12/7/2000 (4)	Jun-01	Dec-01	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	1.00
Toluene	BDL	BDL	BDL	336.00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	530.00
Naphthalene	BDL	BDL	2.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	21.00
MTBE	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	200.00
EDB	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	NA	NA	70.00
IPE	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	BDL	BDL	NA	NA	0.07
Total VOCs	0.00	0.00	2.20	336.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA	NA	
1,1-Dichloroethane	**840.00**	690.00	632.00	**1,100.00**	262.00	259.00	350.00	240.00	282.00	185.00	110.00	156.00	160.00	200.00	700.00
1,2-Dichloroethane	BDL	BDL	BDL	BDL	7.60	BDL	**7.50**	BDL	**1.30**	**2.00**	BDL	**3.00**	BDL	**2.90**	0.38
1,1-Dichloroethene	BDL	**770.00**	**708.00**	**1,270.00**	**618.00**	**501.00**	**390.00**	**340.00**	**204.00**	**280.00**	**80.00**	**282.00**	**100.00**	**234.00**	7.00
Trichloroethene	**280.00**	**125.00**	**267.00**	**232.00**	**152.00**	**206.00**	**81.00**	BDL	**98.00**	**110.00**	**64.30**	**90.00**	**34.70**	**77.40**	2.80
1,1,1-Trichloroethane	BDL	**1,710.00**	**2,709.00**	**3,920.00**	**1,440.00**	**2,080.00**	**620.00**	**1,000.00**	**358.00**	**725.00**	**465.00**	**342.00**	**365.00**	**354.00**	200.00
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	**3.70**	**6.60**	BDL	BDL	**2.20**	BDL	**2.10**	BDL	1.50	1.00
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	5.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2100.00
Tetracholorethene	BDL	BDL	BDL	BDL	BDL	BDL	**1.40**	BDL	BDL	**2.50**	BDL	BDL	BDL	BDL	0.70
cis-,1,2-Dichloroethylene	**330.00**	**470.00**	**319.00**	**429.00**	**164.00**	BDL	BDL	BDL	**151.00**	32.00	**81.50**	**84.00**	BDL	**92.50**	70.00
Vinyl Chloride	BDL	BDL	BDL	**126.00**	**85.60**	**48.90**	BDL	**30.00**	BDL	**33.20**	**13.20**	**29.70**	**19.10**	**29.70**	0.02
Chloroethane	BDL	BDL	BDL	BDL	BDL	**8.74**	**4.30**	BDL	BDL	8.20	BDL	4.40	4.10	3.90	2800.00
Carbon Tetrachloride	BDL	BDL	BDL	BDL	**192.00**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.30
1,1,2,2 Tetrachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	1.00	**1.80**	BDL	BDL	1.00
Total CVOCs	1,450.00	3,765.00	4,635.00	7,077.00	2,921.20	3,107.34	1,466.00	1,610.00	1,094.30	1,381.10	815.00	995.00	682.90	1,000.70	
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 2001
Nello Teer Quarry Site

MW-26

Constituent	Date														2L Standard
	8/29/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/13/96 (2)	10/9/96 (2)	12/2/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	6/7/2000 (4)	12/7/2000 (4)	Jun-01	Jan-02	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NA	NA	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NA	NA	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NA	NA	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NA	NA	530.00
Naphthalene	BDL	**42.50**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	NA	NA	21.00
MTBE	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	BDL	NS	NA	NA	200.00
EDB	NA	NA	NA	BDL	NA	NA	BDL	NA	BDL	BDL	BDL	NS	NA	NA	70.00
IPE	NA	NA	NA	BDL	NA	NA	BDL	NA	BDL	BDL	BDL	NS	NA	NA	0.07
Total VOCs	0.00	42.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		NA	NA	
1,1-Dichloroethane	BDL	100.00	109.00	85.40	BDL	54.30	13.00	5.60	3.60	2.40	BDL	NS	1.00	1.80	700.00
1,1-Dichloroethene	BDL	BDL	**8.10**	**10.70**	**13.60**	**7.17**	5.20	3.60	4.20	5.10	BDL	NS	BDL	BDL	7.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NS	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	4.90	5.83	8.30	BDL	BDL	BDL	5.80	5.80	BDL	NS	BDL	2.70	70.00
Vinyl Chloride	**29.50**	BDL	BDL	**44.80**	**56.60**	**20.10**	**12.00**	**6.90**	**7.00**	**6.00**	BDL	NS	BDL	BDL	0.02
Total CVOCs	29.50	100.00	122.00	146.73	78.50	81.57	30.20	16.10	20.60	19.30	0.00		1.00	4.50	
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NS	NS	NS	15.00

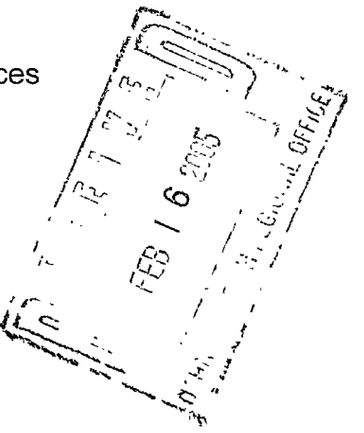
MW-27

Constituent	Date		2L Standard
	9/9/1993 (1)	8/29/1994 (2)	
Benzene	BDL	BDL	1.00
Toluene	BDL	BDL	1000
Ethylbenzene	BDL	BDL	29
Xylenes	BDL	BDL	530
Naphthalene	BDL	BDL	21
MTBE	BDL	NA	200
EDB	BDL	NA	70
IPE	BDL	NA	0.07
Total PAH	0.00	NA	
1,1-Dichloroethane	BDL	BDL	700
Trichloroethene	BDL	BDL	2.8
cis-,1,2-Dichloroethylene	BDL	BDL	70
Vinyl Chloride	BDL	BDL	0.02
Total CVOCs	0.00	0.00	
Lead	0.05	NA	15

NOTES: (1) = EPA Methods 601/602/625 Total PAH/239.2 Lead as sampled by Geonetics; analyzed by Southern Testing
(2) = EPA Methods 601/602/610 as sampled by Front Royal (Quantum); analyzed by Hydrologic
(3) = EPA Methods 601/602/610 as sampled by Quantum; analyzed by Pace Laboratories
(4) = EPA Methods 601/602/610 as sampled by Quantum; analyzed by Test America
(*) = Summation of All Fractions of Detected VOCs including naphthalene.
NA = Not Analyzed
NS = Not Sampled

Quantum Environmental, Inc.

February 15, 2005



Mr. Eric Rice
North Carolina Department of Environment and Natural Resources
Groundwater Section - Raleigh Regional Office
1628 Mail Service Center
Raleigh, North Carolina 27699

RE: Notification Letters Transmittal
Former Nello Teer Quarry Site
Denfield Street
Durham, Durham County, North Carolina
Groundwater Incident Number 9357
Quantum Project No. 0013-94-012

Dear Mr. Rice:

As required, please find enclosed copies of the ten Domestic Return Receipts for the notification letters sent by Certified Mail by Quantum Environmental, Inc. concerning the Corrective Action Plan Addendum for the above-referenced site. One letter, submitted to Crossman Communities of N.C., Inc. was returned because the forwarding order had expired. Another letter was resubmitted to Proctor, Proctor and Lauva at a different address at their request after delivery of the initial letter was refused. This completes the public notification requirements for the submittal of a CAP.

If you have any questions regarding this project please contact me at (919) 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, L. G.
Project Hydrogeologist

R05-002

Cc: Mr. Steve Edgerton, L. G., Hanson Aggregates

Enclosure

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Church of God of
Prophecy Trustees
P.O. Box 15820
Durham, NC 27704

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Don Barnett ☐ Agent ☐ Addressee

B. Received by (Printed Name) Don Barnett C. Date of Delivery 1-31-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7003 1010 0002 1398 9604

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
Mr. Donald W. Ward
P.O. Box 15157
Durham, NC 27704

4a. Article Number 7003 1010 0002 1398 9581

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery 1-31-05

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature: (Addressee or Agent)
X Donald W. Ward

PS Form 3811, December 1994 102595-97-B-0179 Domestic Return Receipt

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery
Consult postmaster for fee.

3. Article Addressed to:
City of Durham
101 City Hall Plaza
Durham, NC 27701
Attn: Patrick Baker

4a. Article Number 7003 1010 0002 1398 9550

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery

5. Received By: (Print Name)

8. Addressee's Address (Only if requested and fee is paid)

6. Sig
X

PS Fo Receipt

Thank you for using Return Receipt Service.

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. Rodney T. Thomas
987 Bowen Road
Rougemount, NC 27572-6402

4a. Article Number
7003 1010 0002 1398 9598

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
2-12-05

5. Received By: *(Print Name)*
Rodney Thomas

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Rodney Thomas

PS Form **3811,** December 1994 102595-97-B-0179 Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

SENDER: *COMPLETE THIS SECTION*
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Proctor, Proctor and Lauva
P.O Box 195
Rougemount, NC 27572

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery
D Proctor 2-2-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7003 1010 0002 1398 9468

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write *"Return Receipt Requested"* on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Durham County
200 East Main Street
2nd Floor Old Courthouse
Durham, NC 27701
Attn: Mike Ruffin

4a. Article Number
7003 1010 0002 1398 9543

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
1-31-05

5. Received By: *(Print Name)*
John Bass

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
[redacted]

PS Form **3811,** December 1994 102595-97-B-0179 Domestic Return Receipt

Your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☑ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

3. Article Addressed to:
Mr. Harvey Harris
125 Chattleton Court
Durham, NC 27712

4a. Article Number
7003 1010 0002 1398 9574

4b. Service Type
☐ Registered ☒ Certified
☐ Express Mail ☐ Insured
☒ Return Receipt for Merchandise ☐ COD

7. Date of Delivery 1/28/05

5. Received By: *(Print Name)*

8. Addressee's Address *(Only if requested and fee is paid)*

6. Signature: *(Addressee or Agent)*
X Harvey Harris

PS Form **3811,** December 1994 102595-97-B-0179 Domestic Return Receipt

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SENDER: *COMPLETE THIS SECTION*
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Mr. and Mrs. Bartell
4911 Denfield Street
Durham, NC 27704

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 1/27/05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7003 1010 0002 1398 9611

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

SENDER: *COMPLETE THIS SECTION*
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Mr. A.L. Derr
4921 Denfield Street
Durham, NC 27704-1317

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Albert L Derr ☐ Agent ☒ Addressee

B. Received by *(Printed Name)* C. Date of Delivery 1-27-05

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7003 1010 0002 1398 9628

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Durham County Health Dept.
414 East Main Street
Durham, NC 27701
Attn: Brian Letourneau

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Carlton Moore ☐ Agent ☐ Addressee

B. Received by (Printed Name) E Moore C. Date of Delivery 1-27

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☒ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7003 1010 0002 1398 9536

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

CERTIFIED MAIL™

7003 1010 0002 1398 9567

UNITED STATES POSTAGE PB8533042
$04.42⁰ JAN 26 05
MAILED FROM RALEIGH, NC 27607

Quantum

6001 Chapel Hill Road, Suite 108
Raleigh, North Carolina 27607

FOE

Crossman Communities of NC Inc.

A C S ☐ INSUFFICIENT ADDRESS ☐ ATTEMPTED NOT KNOWN ☐ NO SUCH NUMBER/ STREET ☐ NOT DELIVERABLE AS ADDRESSED - UNABLE TO FORWARD ☐ OTHER

RTS RETURN TO SENDER

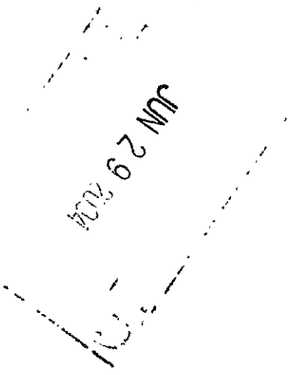
FOE

1-28

Hanson

Hanson Aggregates East, Inc.
2300 Gateway Centre Blvd.
Morrisville, NC 27560-9626
Tel 919 380 2500
Fax 919 380 2522

June 23, 2004



Mr. Eric Rice, Hydrologist
Department of Environment and Natural Resources
Water Quality Division, Water Quality Section
Raleigh Regional Office
3800 Barrett Drive, P.O. Box 27687
Raleigh, NC 27611

Re: Teer Asphalt Plants, Chapel Hill and Durham Locations

Dear Mr. Rice:

The accompanying information lists the number of North Carolina Department of Transportation projects for which the Teer Company produced asphalt from 1969 to 1982 from the referenced plants. The plants are believed to have continued operations into the early 1990's. As part of these projects the NCDOT Standard Specifications require that the Teer Company provide a laboratory space for material testing and engineer use.

Included in this correspondence, which is being sent on behalf of Steve Edgerton, are a partial list of contacts and notes summarizing conversations with individuals who worked or were responsible for Teer's Chapel Hill and Durham operations.

We believe this demonstrates the NCDOT presence and use of laboratory space at both operations over at least a 13 year period. Should you require additional information please do not hesitate to contact me or Steve at 919-414-7982.

Sincerely,

Robert H. Snyder
Environmental Manager-NC

cc: Steven S. Edgerton, Director Geological Services
John A. Gillan Legal Counsel, Hanson Aggregates
Encl.: List of Projects in Triangle Area in 70's
List of Contacts and Conversation Notes

	Nello L Teer Company								
	Projects in Triangle Area in 70's								
					Contr		Teer Sub		
Bid Date	County	DOT No.	Route	Location	Amt	Miles	Under	Plant	Notes
5/28/1969	Durham Orange	7.351104	US 501 & SRs		0.19	13.8		Denfield	Resurface
5/28/1969	Person	7.381134	US 158	NC 49 to Caswell Co	0.06	8.4		Denfield	Resurface
5/26/1970	Durham	6.352165	SR 1959	New 54 to US 70	0.18	3.9		Denfield	
5/26/1970	Person	6.3810019	NC 49	NC 57 to 4 m Caswell	1.17	8.3		Denfield	
8/25/1970	Durham	9.8050532	US 15/501	Durham Bypass	0.76	2.3		Denfield	Add 2nd Lane
9/22/1970	Durham	6.352171	SR 1121	NS RR to NC 55	0.03	1.2		Denfield	Resurface
9/22/1970	Durham	9.8050549	US 70 & 501		0.07	7		Denfield	Resurface
2/23/1971	Durham	8.1409905	I-40 & NC147	Miami to Alexander	7.6	4.7		Denfield	
7/27/1971	Alamance Orange	6.472167	7 SRs	Various	0.26	9.6		Chapel Hill	Paving
8/24/1971	Alamance	6.472170	5 SRs	Various	0.4	13.1		Chapel Hill	Paving
8/24/1971	Orange	6.801645	NC 86	US 70 to Caswell Co	0.34	13		Chapel Hill	Resurface
3/28/1972	Alamance Orange	7.472075	NC 54 & 17 SRs	Various	0.3	34.4		Chapel Hill	Resurface
4/25/1972	Durham	8.1412705	US 501	SR 1462 to SR 1471	2.5	5.3		Denfield	
6/20/1972	Durham Person	7.351106	NC751&7SRs	Various	0.17	18.8		Denfield	Resurface
7/25/1972	Orange	6.803548	US 70	Hillsborough	0.33	8.2		Denfield	Experimental
9/26/1972	Durham	9.8050556	NC147	Erwin to Chapel Hill St	2.8	0.8		Denfield	New Conc Pave
1/23/1973	Alamance Orange	6.801825	NC 54	Co Line to SR 1006	1.68	5		Chapel Hill	
########	Orange	6.803600	NC 54	SR 1006 to Carrboro	2.1	5.9		Chapel Hill	
1/23/1973	Person	6.803739	US 158	Roxboro to Granville Co	0.48	11.8		Denfield	
5/22/1973	Orange	5.5011002	NC57&3SRs	Various	0.19	20.1		Denfield	
6/26/1973	Orange	9.8070320	Estes Drive	Bus 501 to Bypass	0.28	0.7		Chapel Hill	Univ Mall Proj
1/22/1974	Person	6.803957	NC 157	SR 1142 to Orange Co	0.09	7.9		Denfield	
6/26/1974	Person Granville	5.3812001	NC 49	US 501 to NC 96	0.44	15.5		Denfield	
7/23/1974	Durham Person	5.3511004	US15/501,NC55&751		0.37	18.8		Denfield	Resurface
2/25/1975	Orange	5.2012011	NC86&3SRs		0.08	3.9		Chapel Hill	Resurface
2/25/1975	Durham Gran Pers	5.3511008	NC98 US15				Wooten	Denfield	Resurface
5/27/1975	Orange Durham	8.1457701	I-85	Efland to US 70 Bus Dur			ThomArth	Denfield	Safety Impvts
9/9/1975	Chatham	5.5211018	US15/501				Lee Pave	Chapel Hill	Resurface
7/27/1976	Durham	8.7335001	NC 54	NC 751 Intersection	0.6	0.2		Denfield	Page's Job
3/24/1977	Durham	9.8050585	Fayetteville	Elmira to George St	0.3	0.6		Denfield	
3/24/1977	Person	8.1465602	US 501	Madison Blvd	1.3	1.6		Denfield	
4/22/1977	Orange	9.7070201	NC54 Bus	Bypass to Laurel	0.7	1.2		Chapel Hill	
6/27/1977	Chatham	5.5211033	Various				Lee Pave	Chapel Hill	Resurface
#########	Durham	6.352293	1 SR		0.03	1.9		Denfield	Resurface
3/28/1978	Durham	8.1416901	I-85	US 15, US 70, US 501	0.16			Denfield	Safety Impvts
5/23/1978	Durham Wake	6.3510011	NC 98	SR 1847 to SR 1831	3.3	7.1		Denfield	
6/27/1978	Orange	9.5071101	NC 86	US 70 to 70A	0.05	0.35		Chapel Hill	Hillsborough
2/27/1979	Durham	8.7435003	US15/501	I-85 to SR 1303	0.33	3.6		Denfield	Safety Impvts
1/22/1980	Durham	9.5050502	US 70 Bus	Hillandale to Bypass	0.3	1.6		Denfield	Hillsboro Rd
8/28/1979	Durham	8.1413801	US 15/501	Interch @ South Square	5.5	1		Denfield	
3/23/1982	Durham	7.3521008	US 15/501	NC 55 & 14 SRs	0.38	18.5		Denfield	Resurface
7/27/1982	Durham Person	8.1462301	US 501	Rougemnt to 1131	4.96	5.16		Denfield	

Hanson Aggregates East 23 May 2002

1 May 2002
Met with Steve Edgerton, John Gillan and Jim Sprinkle re research on DOT laboratory work at the Teer asphalt plants in Chapel Hill and Durham. Purpose is to prove that the DOT was in fact at these sites at the time that trichloroethene and other chemicals were being used by the DOT. Need to provide witnesses and/or documentation that supports this claim. Possibly determination of DOT projects paved from these plants during the time the suspect practices took place will be sufficient.

Possible Contacts:

Oscar Dellinger	Teer Retired		919-477-8797 H	
Homer Riley	Teer Retired		919-384-2022 H	
Bill Marrow	Teer Retired		252-438-5440 H	
Billy Clapp	Teer Retired		919-471-2082 H	
Billy Creech	Teer Retired		919-383-1701 H	
Hardy Worley	Past Teer		919-477-6827 H	919-369-6996 M
John Carswell	Past Teer	Wooten	919-471-3951 H	919-562-8300 O
Tommy Clement	Past Teer	Asphalt Experts	919-384-9889 W	919-730-4527 M
Dan Brotton	Past Teer		903-849-6211 H	
Robb Teer	Past Teer	Teer Associates	919-549-9506 O	
Eakes, Jim	Past Teer	Triangle	919-596-5230 H	
Harry Britt	Past Teer		910-483-3818 H	
Mike Powell	Past Teer		919-471-3532 H	
Mike Owens	Past Teer		919-524-4919 M	
Chip Harris	Past Teer		919-489-1090 H	
Mickey Hicks	Past Teer		919-603-0114 O	
Buddy Gregg	DOT Retired			
John Alford	DOT Retired		919-496-3880 H	
Jim Grady	DOT Retired		919-883-6887 H	
Robert Smith	DOT Retired	Smith Cullom	919-387-7444 O	
Jimmy Joyner	DOT Retired		919-269-8083 H	
Bobby Baker	DOT Retired			
Carl Painter	DOT Retired		919-383-4115 H	
Quenton Sorrell	DOT Retired		919-477-6111 H	
Bobby Dozier	Past DOT	KCI	919-783-9214 O	
Ricky Ward	Past DOT	Earth Tech	919-854-6200 O	
Bob Royal	AGC		919-781-3270 O	
Barry Jenkins	AGC		919-781-3270 O	
Christie Barbee	CAPA		919-838-8004 O	
Al Muirhead	Muirhead		919-682-9215 O	919-929-3226 H
David Ladd	Ladd Trucking		919-693-3155 H	
Calvin Mellott	Mellott Trkg		919-967-2241 O	

Possible DOT Projects - Chapel Hill:
- Estes Drive
- NC 54
- US 15-501
- Orange Co Resurfacing
- Chatham Co Resurfacing

Durham:
- US 501 Durham to Roxboro
- NC 98 Durham to Wake Forest
- I-40 at Governor's Inn & NC 147 to Alexander Drive
- Madison Blvd in Roxboro
- US 15-501 Bypass 2nd Lane around Durham
- US 15-501 Interchange at South Square
- NC 147 from Chapel Hill west
- NC 49 Person County west of Roxboro

2 May 2002
Spoke with John Carswell. He and Billy Clapp had their offices in Chapel Hill. His recall is that there were a number of jobs done for the DOT out of Chapel Hill. Some were for Division Six. NC 54 was resurfaced. Estes Drive was paved before John came on board. John reminded me that the DOT "rented" the laboratory for their use. I then recalled that there was a lab rental bid item in the jobs with asphalt. I need to locate some copies of contracts for the jobs showing the lab bid item. John also recalled that Calvin Mellott bought asphalt from the Chapel Hill plant and did some DOT work. Call John next week for a meeting time.

Spoke with Billy Clapp. He had little recall of the DOT folks at Chapel Hill but said to get in touch with Mickey Hicks who was the plant superintendent there before Mike and Chip hired him to work for their new operation. Billy said that John Wheeler, James Wheeler (no relation), and Bill Bailey were DOT inspectors that he remembered and may have been in the lab crews at some time. Will consider having Billy contact them. Found phone number for James, possibly John and no results on Bill. Billy's recall of projects included those already considered. Billy has seen Bill Marrow recently.

5 May 2002
Spoke with Dan Brotton who was superintendent of the Durham asphalt plant from 1970 to 1975. Dan is currently director of the Solid Waste department in Tyler Texas. Phone is 903-849-6211. Dan recalls the lab at the Durham plant and one inspector that worked there. He recalls making asphalt for crossovers on I-85 when he was there. That was probably the "missing link" going toward Virginia that Thurman Wheeler built. Dan will provide a letter documenting the existence of the lab and the use of it by the DOT inspectors.

7 May 2002
Tommy Clement recalls Bill Bailey from Stoney Hill and James Wheeler from Old Oxford Road (620-0095) as well as John Wheeler as state inspectors. He thinks that Bill Bailey was in the lab from time to time. He said Mickey Hicks was from Stovall and worked with Chip and Mike. He had an old phone number for Mickey at 603-0616 but doesn't think it's still good. Other asphalt plant people he remembers are Bill Sansone and Charles Moore. He thinks Charles is still with Teer. He recalls Residents Phil Watts, Jimmy Joyner and Bobby Downes. Phil is in Raleigh with DOT, Jimmy retired, and Bobby is still a resident in Division 5 out of the Henderson District. Bobby lives in Oxford. Tommy's son Trey is with Earthwork Solutions and has mobile 524-1147. He may know more recent info on the Teer employees. Tommy recalls Durham projects on NC 98, US 501, Madison Blvd in Roxboro, and NC 49 in Person County. He too thinks that Estes Drive in Chapel Hill may have come from there. Oscar handled the paving.

Arranged with Robb Teer to review his records on Thursday morning, 9 May.

9 May 2002
Went to Robb Teer's office and looked at his files. Not as much information as I had hoped for. Got job listings for the 50's and the 70's but nothing from the 60's. Also, the files generally end in 1980 as that was the date that the family sold the company to Koppers. The jobs listed have sketchy information and we'll need more details that I will try to get from AGC bid tabs or failing that, the DOT archives.

Met with Al Muirhead and son Bill. Al gave me copies of the 1972 and 1984 Standard Specifications, both of which have the Asphalt Laboratory rental specification. Al remembered James Wheeler as an inspector.

Spoke with Chip Harris primarily to get Mickey Hicks' phone number. He didn't have it handy. Told him of our quest but he had no information that would have been of value.

Spoke with Oscar Dellinger. His memory was not too clear on inspectors or on some of the sources of asphalt. I need to give him specific projects and see if he can be more specific. He did agree that there was a lab at Chapel Hill for the DOT. Need to follow up when I have better project lists.

10 May 2002
Met with John Carswell for lunch and discussed Chapel Hill plant. John was there in the middle 80's. He told me that Mickey Hicks was now running a grocery store in Cornwall. John remembered David Cheek and _____ Foley who were inspectors at the plant from the DOT's Graham office of Division 7. He thinks Cheek will be a good source of information. Hardy Worley is now working for Wooten. His cell phone number is 919-369-6996.

Called Mickey Hicks at his grocery store in Cornwall. Phone number 919-603-0114. He remembers an inspector named Bruce Ellis. Richard Hanson worked with Mickey and he'll talk with him to try to get names of other inspectors. Bill Sansone was another Teer employee that Mickey apparently worked for. He came to Teer to look after asphalt plants. Mickey remembers putting down over 15,000 tons of asphalt on NC 54 going toward Alamance County. He recalls James McQueen from the DOT lab being helpful. Mickey was with Teer for about ten years. His recall is that when he went to Chapel Hill, the plant there hadn't been run for a number of years. He was at Teer from the mid 70's to the mid 80's.

13 May 2002
Called Bob Royal at Raleigh AGC to see if they had archives in that office. He said they are in the Charlotte office and told me to see Mary Sear there. Called Mary and arranged to see data on Tuesday.

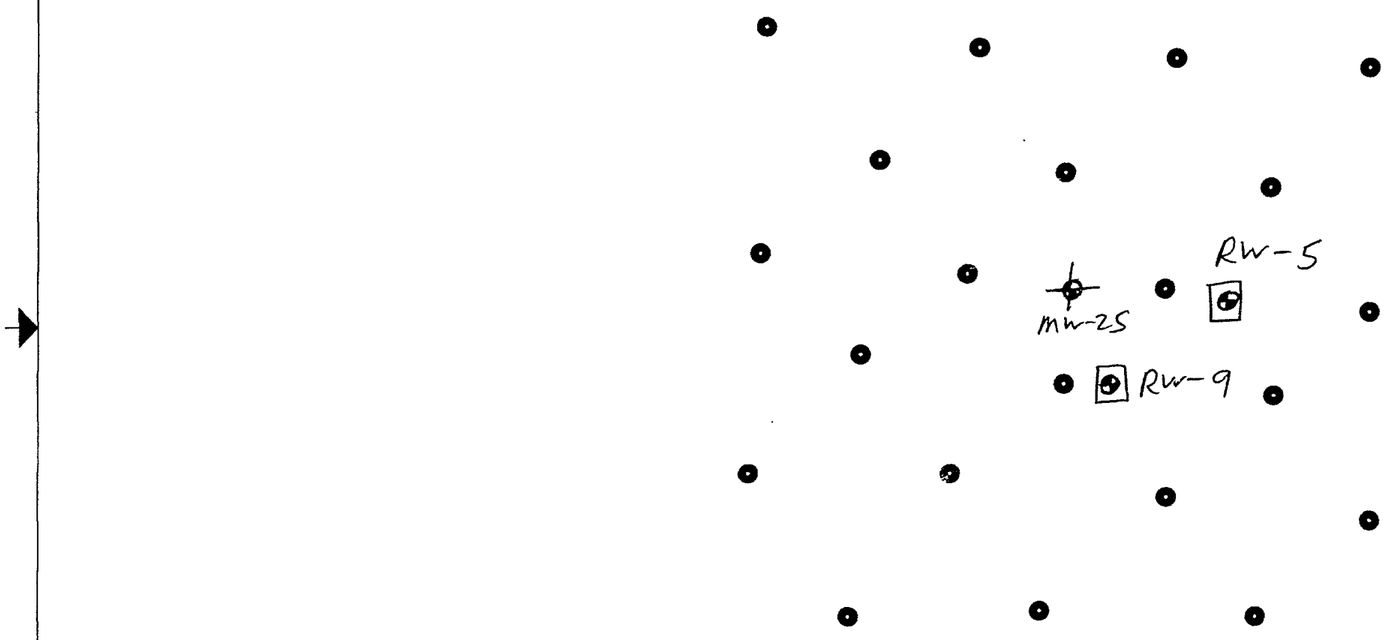
14 May 2002
Reviewed AGC Bulletins in Charlotte office and compiled data on Teer projects between January 1969 and December 1982.

15 May 2002
Spoke with Bill Muirhead about specification books and he said he didn't find any more. Called John Carswell and he has the book prior to the 1972 Edition. It's dated 1965. He copied the specification on the lab and mailed it to me. It confirms that labs were provided by the contractor for use by the DOT for jobs done under those standard specifications. All the jobs tabulated were performed with DOT inspection and testing of asphalt materials in contractor provided labs. Consider proposing resident engineers confirm the lab use for the DOT. John said they did the US 15-501 bypass job that Jim Eakes was on about 1990. John thinks that most of the asphalt came from Durham with some from Chapel Hill that was not affected by the DOT's reluctance to mix plants unless the mix designs are the same using the same materials. John remembered a Tommy _____ who he said David Cheek will know.

Located a David Cheek in Graham at 336-570-1648. Since he isn't in the DOT directory, I presume he's retired. Robert Smith advised me that Jimmy Joyner lives in Zebulon. His number is 919-269-8083.

Spoke with Oscar Dellinger again and went through the project list that resulted from the review on the 14th. The Plant sources for asphalt on the list are as recalled by Oscar and myself.

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED



N

LEGEND

MONITOR WELL

U/G WATER LINE — W —

CHAIN LINK FENCE — X —

U/G NATURAL GAS LINE — NG —

SOIL BORING LOCATION

Quantum Environmental, Inc.
6001 Chapel Hill Road, Suite 108 Raleigh, North Carolina 27607
Phone: 919.852.3595 Fax: 919.852.1997

HRC INJECTION PLAN
FORMER NELLO TEER QUARRY
DURHAM, NORTH CAROLINA

SIZE	FIGURE NO.	PROJECT NO.	REV
B	8	0013-94-012	1

FEBRUARY 8, 2002

SCALE 1" = 10'

SHEET

Subject: FYI
Date: Fri, 20 Sep 2002 07:28:04 -0400
From: Mark Pritzl <Mark.Pritzl@ncmail.net>
Organization: Groundwater Section
To: ERIC RICE <ERIC.RICE@ncmail.net>

-------- Original Message --------
Date: Thu, 19 Sep 2002 11:00:38 -0400
From: "Thomas W. Davis" <TDavis@QUANTUMCOs.com>
To: mark.pritzl@ncmail.net

Mark-

Here is the letter from Regenesis regarding the HRC event at Teer. I just spoke with Niki Case about this as the letter calls the proposed event a "Pilot Study". I want to know what the original study proposed and what are the differences between the two studies so that I know what to expect and can choose which application we will pursue.

I will send you any further correspondence I receive regarding this. Hope this helps.

Tom

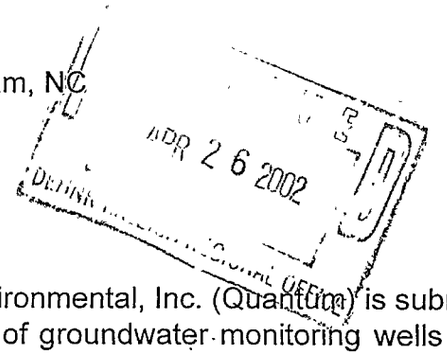
revised Nello Teer H-588.1.doc	**Name:** revised Nello Teer H-588.1.doc **Type:** WINWORD File (application/msword) **Encoding:** base64 **Download Status:** Not downloaded with message

Quantum Environmental, Inc.

April 24, 2002

Mr. Mark Powers
North Carolina Department of Environment and Natural Resources
Raleigh Regional Office
1628 Mail Service Center
Raleigh, N.C. 27699-1628

Re: Nello Teer Quarry, Denfield Street, Durham, NC
Well Abandonment Report Submittal
Groundwater Incident No. 9357



Dear Mr. Powers:

On behalf of Hanson Aggregates, Quantum Environmental, Inc. (Quantum) is submitting this report describing the recent abandonment of groundwater monitoring wells at the above-referenced site.

On March 19, 2002 monitoring wells MW-3, MW-14I, MW-16I, MW-19, MW-22, and MW-24 were abandoned by a North Carolina Certified Well Contractor in accordance with the North Carolina Well Construction Standards. These wells were initially gauged to verify total depth, and then abandoned by filling them with neat cement from the bottom up via a tremmie pipe and grout pump. Enclosed please find copies of the completed Well Abandonment Records for each well. These records were sent under separate cover to the Department of Environment and Natural Resources Central Office. Also enclosed is a Well Location Map identifying the wells that were abandoned.

If you have any questions regarding this matter please contact me at (919) 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, P.G 4/24/02
Project Hydrogeologist

L02-081

cc: Mr. Steve Edgerton, P.G., Hanson Aggregates
Mr. Eric Rice, DENR, Groundwater Section, RRO

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section - 1636 Mail Service Center - Raleigh, NC 27699-1639 - Phone No: (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR GRAHAM + CURRIE

WELL CONTRACTOR CERTIFICATION # 3153

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☐
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: DURHAM County Durham
DENFIELD ROAD HANSON QUARRY
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: HANSON AGGREGATES
2300 GATEWAY CENTER BLVD
4. ADDRESS: MORRISVILLE NC 27560

5. TOPOGRAPHY: draw, slope, hilltop, valley (flat) (circle one)

6. TOTAL DEPTH: 69' 6" DIAMETER 4"

7. CASING REMOVED:

feet	diameter
2	4"

8. DISINFECTION: HTH 4oz
(Amount of 70% hypochlorite used:)

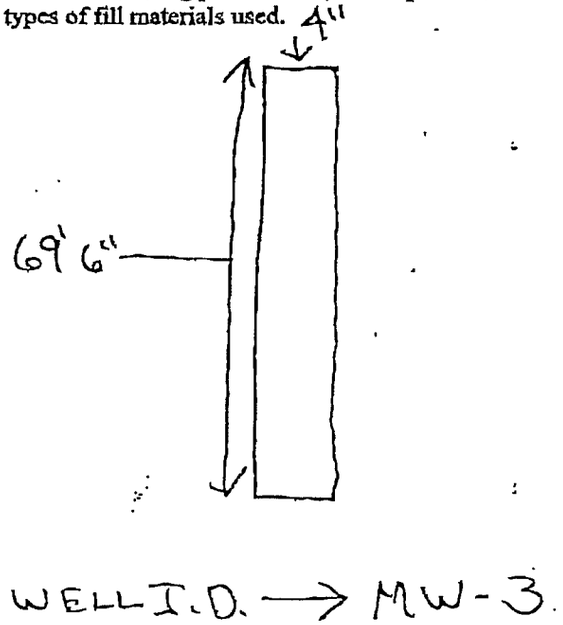
9. SEALING MATERIAL:

Neat Cement	Sand Cement
bags of cement 6	bags of cement
gallons of water 42	gallons of water

Other
Type material
Amount

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
WITH GROUTER AND TREMIE PIPE
PUMPED GROUT INTO WELL

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



11. DATE WELL ABANDONED 3-19-02

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Bill Billingsley Date 3-19-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section - 1636 Mail Service Center - Raleigh, NC 27699-1639 - Phone No: (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR GRAHAM & CURRIE

WELL CONTRACTOR CERTIFICATION # 3153

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☑ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: DURHAM County Durham
DENFIELD - HANSON QUARRY
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: Hanson Aggregates

4. ADDRESS: 2300 Gateway Ctr Blvd, Morrisville NC 27560

5. TOPOGRAPHY: draw, slope, hilltop, valley (flat)

6. TOTAL DEPTH: 44' 6" (circle one) DIAMETER 2"

7. CASING REMOVED:

feet	diameter
0	2"

8. DISINFECTION: HTH - 4oz
(Amount of 70% hypochlorite used:)

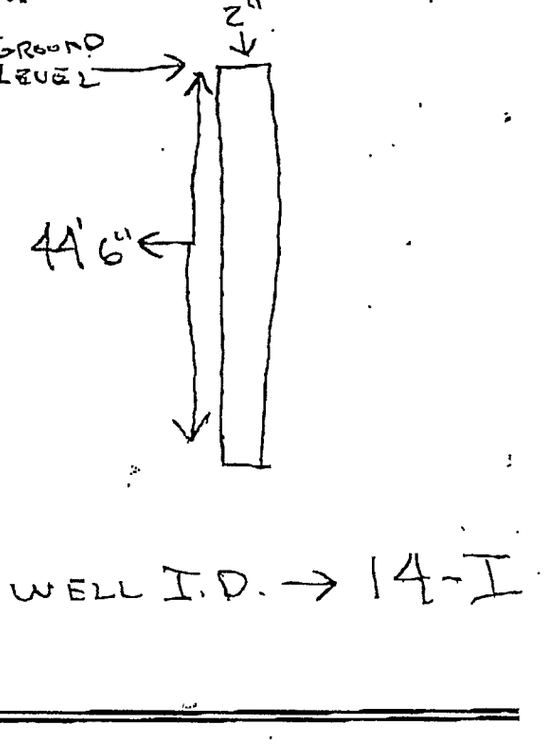
9. SEALING MATERIAL:

Neat Cement	Sand Cement
bags of cement 2 1/2	bags of cement
gallons of water 19	gallons of water

Other
Type material
Amount

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
WITH GROUTER TRIMMED GROUT INTO WELL

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



11. DATE WELL ABANDONED 3-19-02

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Bill Billingsley Date 3-19-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section - 1636 Mail Service Center - Raleigh, NC 27699-1639 - Phone No: (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR GRAHAM & CURRIE

WELL CONTRACTOR CERTIFICATION # 3153

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☑ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: DURHAM County Durham
DENFIELD ROAD HANSON QUARRY
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: HANSON AGGREGATES
2300 Gateway Center Blvd
4. ADDRESS: Morrisville NC 27560

5. TOPOGRAPHY: draw, slope, hilltop, valley, ~~flat~~ (circle one)

6. TOTAL DEPTH: 59' DIAMETER 2"

7. CASING REMOVED:

feet	diameter
0	

8. DISINFECTION: HTH 4oz
(Amount of 70% hypochlorite used:)

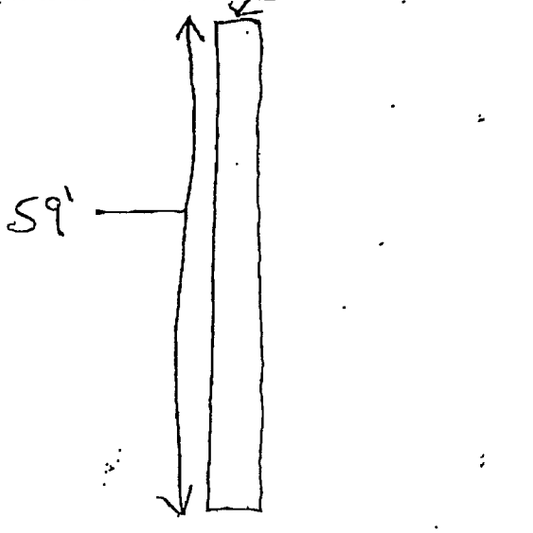
9. SEALING MATERIAL:

Neat Cement	Sand Cement
bags of cement 3	bags of cement
gallons of water 21	gallons of water

Other
Type material
Amount

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
WITH GROUTER AND TRIMMY PIPE
PUMPED GROUT INTO WELL

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



WELL I.D. → 16-I

11. DATE WELL ABANDONED 3-19-02

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Bill Billingsley Date 3-19-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section - 1636 Mail Service Center - Raleigh, NC 27699-1639 - Phone No: (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR GRAHAM & CURRIE

WELL CONTRACTOR CERTIFICATION # 3153

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☑ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: DURHAM County Durham
DENFIELD ROAD HANSON QUARRY _____
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: HANSON AGGREGATES
2300 Gateway Center Blvd
4. ADDRESS: Morrisville NC 27560

5. TOPOGRAPHY: draw, slope, hilltop, valley, (flat) (circle one)

6. TOTAL DEPTH: 12' DIAMETER 2"

7. CASING REMOVED:

feet	diameter
2	2"

8. DISINFECTION: HTH 4oz
(Amount of 70% hypochlorite used:)

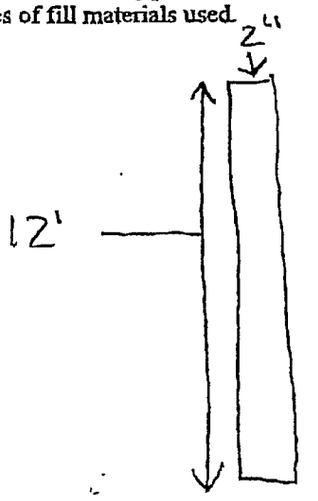
9. SEALING MATERIAL:

Neat Cement	Sand Cement
bags of cement 1	bags of cement
gallons of water 7	gallons of water

Other
Type material _____
Amount _____

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
WITH GROUTER AND TRIMMY PIPE
PUMPED GROUT INTO WELL

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



WELL I.D. → MW-19

11. DATE WELL ABANDONED 3-19-02

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Bill Billingsley Date 3-19-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section - 1636 Mail Service Center - Raleigh, NC 27699-1639 - Phone No: (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR GRAHAM & CURRIE
WELL CONTRACTOR CERTIFICATION # 3153

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☑
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: DURHAM County Durham
DENFIELD ROAD HANSON QUARRY _____
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: Hanson Aggregates
4. ADDRESS: 2300 Gateway Ctr Blvd. Morrisville NC 27560

5. TOPOGRAPHY: draw, slope, hilltop, valley, (flat) (circle one)

6. TOTAL DEPTH: 60' DIAMETER 2"

7. CASING REMOVED:

feet	diameter
0	

8. DISINFECTION: HTH 4 oz
(Amount of 70% hypochlorite used:)

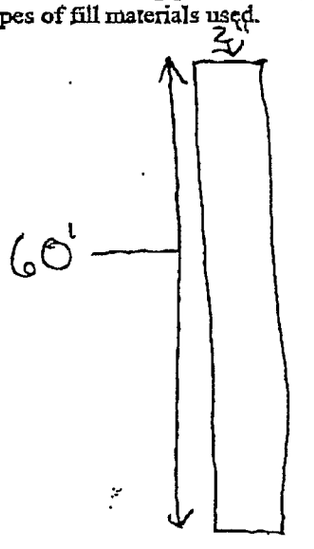
9. SEALING MATERIAL:

Neat Cement	Sand Cement
bags of cement 3	bags of cement
gallons of water 2 L	gallons of water

Other
Type material _____
Amount _____

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
WITH GROUTER AND TRIMMY PIPE PUMP GROUT INTO WELL

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



WELL I.D. — MW-22

11. DATE WELL ABANDONED 3-19-02

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Bill Billingsley Date 3-19-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section - 1636 Mail Service Center - Raleigh, NC 27699-1639 - Phone No: (919) 733-3221

WELL ABANDONMENT RECORD

WELL CONTRACTOR GRAHAM & CURRIE

WELL CONTRACTOR CERTIFICATION # 3153

1. WELL USE (Check Applicable Box): Residential ☐ Municipal ☐ Industrial ☐ Agricultural ☐ Monitoring ☑
Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: _____

2. WELL LOCATION: (Show a sketch of the location on back of form.)
Nearest Town: DURHAM County Durham
DENFIELD RD HANSON QUARRY
(Road Name and Number, Community, Subdivision, Lot No.) Quadrangle No.

3. OWNER: Hanson Aggregates
2300 Gateway Center Blvd
4. ADDRESS: Morrisville NC 27560

5. TOPOGRAPHY: draw, slope, (hilltop) valley, flat (circle one)

6. TOTAL DEPTH: 36' DIAMETER 2"

7. CASING REMOVED:

feet	diameter
2	2"

8. DISINFECTION: HTH 4oz
(Amount of 70% hypochlorite used:)

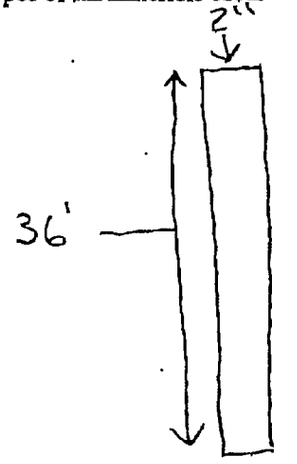
9. SEALING MATERIAL:

Neat Cement	Sand Cement
bags of cement 1½	bags of cement
gallons of water 10	gallons of water

Other
Type material
Amount

10. EXPLAIN METHOD EMPLACEMENT OF MATERIAL.
WITH GROUTER AND TRIMMY PIPE
PUMPED GROUT INTO WELL

WELL DIAGRAM: Draw a detailed sketch of the well showing total depth, depth and diameter of screens remaining in the well, gravel interval, intervals of casing perforations, and depths and types of fill materials used.



WELL I.D - MW-24

11. DATE WELL ABANDONED 3-19-02

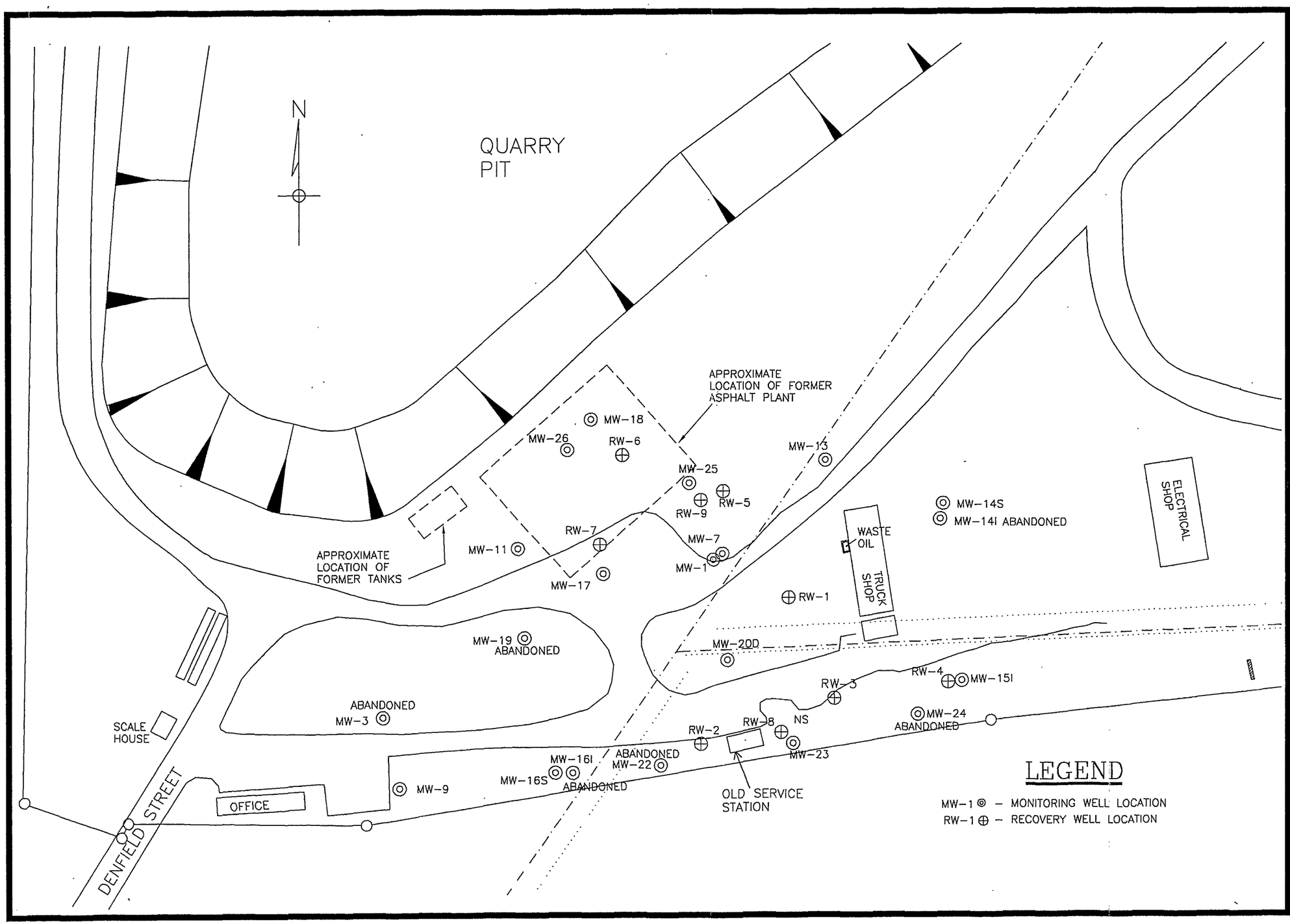
I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well Bill Billingsley Date 3-19-02

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater Section, one copy to the owner within 30 days from completion of abandonment.

GW-30 Revised 12/99



Quantum ENVIRONMENTAL INC.
2200 Gateway Boulevard, Suite 205 Morrisville, North Carolina 27560
Phone 919-469-8500 Fax 919-469-8567

ABANDONED MONITORING WELLS
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012
SCALE: 1"= 110'

DWN	CHK	CLIENT APPROVAL
DATE	DATE	DATE
12/01		

MEMO

DATE: 8/23/03

TO: File

SUBJECT: Nello Teer 9357 DR.

City Durham using Nello Teer Quarry for water supply.

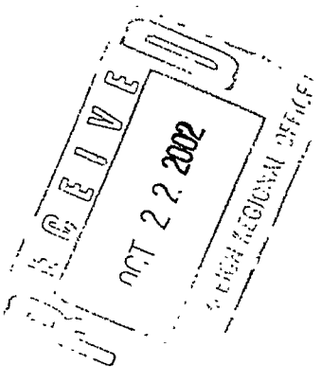
In a telephone conversation with Steve Edgerton (Hanson aggreates), Steve indicated the City of Durham has been informed that there is groundwater contamination located next to the Quarry. Steve indicated Terry Rollin (City Durham) was his contact and was aware of the contamination. Steve said the city had tested or was going to test the quarry water.

Left message with Terry Rollin (city of Durham) indicated that the GW Section was managing a pollution ~~indic~~ incident at the quarry and also that a UST incident was located on site. I indicated to call the Section with any questions they may have about the site.

FROM: Eric Rice

NCDENR NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

PRINTED ON RECYCLED PAPER



DIVISION OF WATER QUALITY
GROUNDWATER SECTION
October 21, 2002

MEMORANDUM

To: Jay Zimmerman, L.G., Regional Groundwater Supervisor
Groundwater Section
Raleigh Regional Office

From: Mark Pritzl MP *Mark.Pritzl@ncmail.net*
Hydrogeological Technician II
UIC Group
Groundwater Section
Raleigh Central Office

Re: Issuance of injection well permit type 5I (in-situ Groundwater Remediation Well)

Permit Number WI0500043 is to inject an HRC™ slurry to augment/enhance reductive dehalogenation of the dissolved chlorinated solvent contamination at this site. These injection wells/points will be located at Three Diamond Lane, in Durham, North Carolina. **Please retain the application paper work and permit copy for the RRO-UIC files. The UIC group greatly appreciates Eric Rice's inspection and review tasks concerning this permit application.** If you have any questions regarding this permit or the UIC program, please contact me at (919) 715-6166.

cc: CO-UIC Files
Enclosures

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P.E. Director
Division of Water Quality

October 18, 2002

J. Gary Edge, V.P.
Mitsubishi Electric & Electronics USA, Inc.
2635 Meridian Parkway
Durham, NC 27713

Dear Mr. Edge:

In accordance with the application received on July 29, 2002 we are forwarding Permit No. WI0500043. This permit is for the injection of an HRC™ slurry for reductive dechlorination of the dissolved chlorinated solvent contamination at Three Diamond Lane, in Durham, North Carolina.

This permit shall be effective from the date of issuance until October 31, 2005, and shall be subject to the conditions and limitations stated therein, including the requirement to submit a **final project evaluation** as stated in PART VII - MONITORING AND REPORTING REQUIREMENTS. You will also need to notify this office by telephone 48 hours prior to initiation of injection at this facility. In order to continue uninterrupted legal use of this injectant for the stated purpose, you should submit an application to renew the permit three months prior to its expiration date.

If you have any questions regarding your permit please contact me at (919) 715-6166.

Sincerely,

Mark Pritzl
Hydrogeological Technician
UIC Program

cc: CO-UIC Files
RRO-UIC Files
Enclosures

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
RALEIGH, NORTH CAROLINA

PERMIT FOR THE CONSTRUCTION AND OPERATION OF A WELL FOR INJECTION

In accordance with the provisions of Article 7, Chapter 87; Article 21, Chapter 143, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

Mitsubishi Electric & Electronics USA, Incorporated

FOR THE CONSTRUCTION AND OPERATION OF A TYPE 5I INJECTION WELL, defined in Title 15A North Carolina Administrative Code 2C .0209(e)(3)(C), for the injection of an HRC™ slurry for reductive dechlorination of the dissolved chlorinated solvent contamination at this site. These injection wells will be located at Three Diamond Lane, in Durham, North Carolina, and will be operated in accordance with the application received on July 29, 2002 and in conformity with the specifications and supporting data submitted, all of which are filed with the Department of Environment and Natural Resources and are considered a part of this permit.

This permit is for Construction and Operation only, and does not waive any provisions of the Water Use Act or any other applicable Laws, Rules, or Regulations. Operation and use of an injection well shall be in compliance with Title 15A North Carolina Administrative Code 2C .0100 and .0200, and any other Laws, Rules, and Regulations pertaining to well construction and use.

This permit shall be effective, unless revoked, from the date of its issuance until October 31, 2005, and shall be subject to the specified conditions and limitations set forth in Parts I through X hereof.

Permit issued this the 21st day of October, 2002.

Debra J. Watts

Ted L. Bush, Jr., Assistant Chief
Groundwater Section
Division of Water Quality

By Authority of the Environmental Management Commission.

PART I - WELL CONSTRUCTION GENERAL CONDITIONS

1. The Permittee must comply with all conditions of this permit and with the standards and criteria specified in Criteria and Standards Applicable to Injection Wells (15A NCAC 2C .0200). Any noncompliance with conditions of this permit constitutes a violation of the North Carolina Well Construction Act and is grounds for enforcement action as provided for in N.C.G.S. 87-94.

2. This permit shall become voidable unless the facility is constructed in accordance with the conditions of this permit, the approved plans and specifications, and other supporting data.

3. Each injection well shall not hydraulically connect separate aquifers.

4. Each injection well shall be constructed in such a manner that water from land surface cannot migrate into the gravel pack or well screen.

5. Each injection well shall be secured to reasonably insure against unauthorized access and use. Each well shall be permanently labeled with a warning that it is for injection purposes and the entrance to each well must be secured with a locking cap.

6. Each injection well shall be afforded reasonable protection against damage during construction and use.

7. Each injection well shall have permanently affixed an identification plate.

8. A completed Well Construction Record (Form GW-1) must be submitted for each injection well to, DENR-Division of Water Quality, Groundwater Section UIC-Staff, 1636 Mail Service Center, Raleigh, NC 27699-1636, within 30 days of completion of well construction.

PART II - WELL CONSTRUCTION SPECIAL CONDITIONS

1. At least forty-eight (48) hours prior to constructing each injection well, the Permittee shall notify the Groundwater Section-Underground Injection Control (UIC), Central Office staff, telephone number (919) 715-6166.

PART III - OPERATION AND USE GENERAL CONDITIONS

1. This permit is effective only with respect to the nature, volume of materials and rate of injection, as described in the application and other supporting data.

2. This permit is not transferable without prior notice to, and approval by, the Director of the Division of Water Quality (Director). In the event there is a desire for the facility to change ownership, or there is a name change of the Permittee, a formal permit amendment request must be submitted to the Director, including any supporting materials as may be appropriate, at least 30 days prior to the date of the change.

3. The issuance of this permit shall not relieve the Permittee of the responsibility of complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other local, state, and federal agencies which have jurisdiction. Furthermore, the issuance of this permit does not imply that all regulatory requirements have been met.

PART IV - PERFORMANCE STANDARDS

1. The injection facility shall be effectively maintained and operated at all times so that there is no contamination of groundwater which will render it unsatisfactory for normal use. In the event that the facility fails to perform satisfactorily, including the creation of nuisance conditions or failure of the injection zone to adequately assimilate the injected fluid, the Permittee shall take immediate corrective actions including those actions that may be required by the Division of Water Quality such as the repair, modification, or abandonment of the injection facility.

2. The Permittee shall be required to comply with the terms and conditions of this permit even if compliance requires a reduction or elimination of the permitted activity.

3. The issuance of this permit shall not relieve the Permittee of the responsibility for damages to surface or groundwater resulting from the operation of this facility.

PART V - OPERATION AND MAINTENANCE REQUIREMENTS

1. The injection facility shall be properly maintained and operated at all times.

2. The Permittee must notify the Division and receive prior written approval from the Director of any planned physical alterations or additions in the permitted facility or activity not specifically authorized by the permit.

3. At least forty-eight (48) hours prior to the initiation of the operation of the facility for injection, the Permittee must notify by telephone the Groundwater Section-Underground Injection Control (UIC), Central Office staff, telephone number (919) 715-6166. Notification is required so that Division staff can inspect or otherwise review the injection facility and determine if it is in compliance with permit conditions.

PART VI - INSPECTIONS

1. Any duly authorized officer, employee, or representative of the Division of Water Quality may, upon presentation of credentials, enter and inspect any property, premises, or place on or related to the injection facility at any reasonable time for the purpose of determining compliance with this permit, may inspect or copy any records that must be maintained under the terms and conditions of this permit, and may obtain samples of groundwater, surface water, or injection fluids.

2. Department representatives shall have reasonable access for purposes of inspection, observation, and sampling associated with injection and any related facilities as provided for in N.C.G.S. 87-90.

3. Provisions shall be made for collecting any necessary and appropriate samples associated with the injection facility activities.

PART VII - MONITORING AND REPORTING REQUIREMENTS

1. The Permittee shall follow the monitor plan established in the Corrective Action Plan (CAP) at this site and all sample results shall be submitted to the Groundwater Section's Raleigh Regional Office and the Raleigh Central Office. Any monitoring (including groundwater, surface water, or soil sampling) deemed necessary by the Division of Water Quality to insure surface and ground water protection, will be established and an acceptable sampling reporting schedule shall be followed.

2. The Permittee shall produce a **final project evaluation** within 9 months after completing all injection activity associated with your permit application. This document shall assess the injection projects findings in a written summary. The final project evaluation shall also contain: monitoring well sampling data, contaminant plume and potentiometric surface maps.

3. The **final project evaluation** shall be submitted to the Underground Injection Control Program, Groundwater Section, NC DENR-Division of Water Quality, 1636 Mail Service Center, Raleigh, NC 27699-1636 and to the Groundwater Section, Raleigh Regional Office, 3800 Barrett Drive, Raleigh, NC 27609.

4. The Permittee shall report by telephone, within 48 hours of the occurrence or first knowledge of the occurrence, to the Raleigh Regional Office, telephone number (919) 571-4700, any of the following:

    (A) Any occurrence at the injection facility which results in any unusual operating circumstances;

    (B) Any failure due to known or unknown reasons, that renders the facility incapable of proper injection operations, such as mechanical or electrical failures.

5. Where the Permittee becomes aware of an omission of any relevant facts in a permit application, or of any incorrect information submitted in said application or in any report to the Director, the relevant and correct facts or information shall be promptly submitted to the Director by the Permittee.

6. In the event that the permitted facility fails to perform satisfactorily, the Permittee shall take such immediate action as may be required by the Director.

PART VIII - PERMIT RENEWAL

The Permittee shall, at least three (3) months prior to the expiration of this permit, request an extension.

PART IX - CHANGE OF WELL STATUS

1. The Permittee shall provide written notification within 15 days of any change of status of an injection well. Such a change would include the discontinued use of a well for injection. If a well is taken completely out of service temporarily, the Permittee must install a sanitary seal. If a well is not to be used for any purpose that well must be permanently abandoned according to 15A NCAC 2C .0213(h)(1), Well Construction Standards.

2. When operations have ceased at the facility and a well will no longer be used for any purpose, the Permittee shall abandon that injection well in accordance with the procedures specified in 15A NCAC 2C .0214, including but not limited to the following:

   (A) All casing and materials may be removed prior to initiation of abandonment procedures if the Director finds such removal will not be responsible for, or contribute to, the contamination of an underground source of drinking water.

   (B) The entire depth of each well shall be sounded before it is sealed to insure freedom from obstructions that may interfere with sealing operations.

   (C) The well shall be thoroughly disinfected, prior to sealing, if the Director determines that failure to do so could lead to the contamination of an underground source of drinking water.

   (D) Drilled wells shall be completely filled with cement grout, which shall be introduced into the well through a pipe which extends to the bottom of the well and is raised as the well is filled.

   (E) In the case of gravel-packed wells in which the casing and screens have not been removed, neat-cement shall be injected into the well completely filling it from the bottom of the casing to the top.

   (F) In those cases when, as a result of the injection operations, a subsurface cavity has been created, each well shall be abandoned in such a manner that will prevent the movement of fluids into or between underground sources of drinking water and in accordance with the terms and conditions of the permit.

   (G) The Permittee shall submit a Well Abandonment Record (Form GW-30) as specified in 15A NCAC 2C .0213(h)(1) within 30 days of completion of abandonment.

3. The written documentation required in Part IX (1) and (2) (G) shall be submitted to:

Groundwater Section-UIC Staff
DENR-Division of Water Quality
1636 Mail Service Center
Raleigh, NC 27699-1636

PART X – WORKER PRECAUTIONS DURING APPLICATION

1. Some effects reported to be associated with the product proposed to be used are as follows: eye, skin, nose, throat and lung irritation. If the product is released into the environment in a way that could result in a suspension of fine solid or liquid particles (e.g., grinding, blending, vigorous shaking or mixing), then proper personal protective equipment should be used. The application process should be reviewed by an industrial hygienist to ensure that the most appropriate personal protective equipment is used.

2. Persons working with these products should wear goggles or a face shield, gloves, and protective clothing. Face and body protection should be used for anticipated splashes or sprays.

3. Eating, drinking, smoking, handling contact lenses, and applying cosmetics should not be permitted in the application area during or immediately following application.

4. Safety controls should be in place to ensure that the check valve and the pressure delivery systems are working properly.

5. The Material Safety Data Sheets should be followed to prevent incompatible or adverse reactions and injuries.

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

July 18, 2002

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Thomas Davis, P.G.
Quantum Environmental, Inc.
6001 Chapel Hill Road
Suite 108
Raleigh, NC 27607

Reference: **Notice Of Regulatory Requirement**
North Carolina Well Construction Standards
Applicable to Injection Wells - Subchapter 2C Section .0200
Former Nello Teer Quarry, Durham, NC

Dear Mr. Davis:

The Groundwater Section of the Division of Water Quality (DWQ) is responsible for the regulation of injection well construction and operation activities within the state of North Carolina. The purpose of this letter is to inform you of Quantum Environmental's responsibilities pertaining to injection well rules.

Enclosed, for your convenience, is a copy of the North Carolina Well Construction Standards Applicable to Injection Wells (NCAC 2C Section .0200). These rules establish permitting, construction and operation criteria for all injection wells in North Carolina.

On December 17, 2001, Quantum's permit application dated November 26, 2001 was received for the construction and operation of an In-Situ Remediation type 5I injection well at a quarry owned by the Hanson Aggregates in Durham, North Carolina. On May 3, 2002, the Groundwater's Central Office (CO) of DWQ received a letter from you informing us that the injection of ORC was conducted at this site on December 18, 2001.

Please note that NCAC 2C .0211 (page 10 of the enclosed rules) states that a permit shall be obtained prior to constructing, operating, or using a well for injection. This rule applies to the type of well that was being constructed at the Nello Teer quarry. Due to the fact that construction and injection of the three wells has been completed for the purpose of remediation of groundwater and you

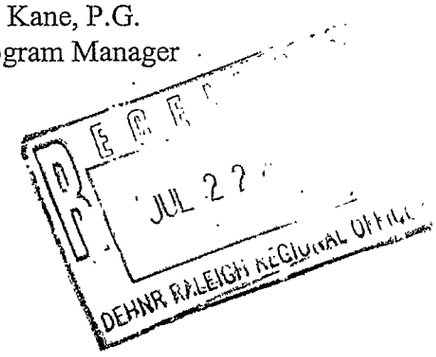
did self report the incident, no formal enforcement action is being considered at this time. We reserve the right to issue a Notice Of Violation (NOV) at a later date if information indicates it is appropriate to do so.

The permit application for construction and operation of an injection well that was submitted will be retained for our records but we are officially closing the application. If you have any questions about the UIC Program, please contact me at (919) 715-6165 or Mark Pritzl at (919) 715-6166.

Sincerely,

Evan O. Kane

Evan O. Kane, P.G.
UIC Program Manager



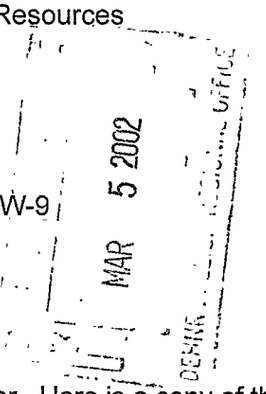
Enclosures

cc: Steve Edgerton, Hanson Aggregates, w/o enclosures
Jay Zimmerman, RRO Groundwater Section, w/o enclosures

Quantum Environmental, Inc.

March 1, 2002

Mr. Eric Rice
NC Dept. of Environment and Natural Resources
Groundwater Section
Raleigh Regional Office
1628 Mail Service Center
Raleigh, North Carolina 27699-1628



Re: Recovery Well Schematic for RW-9
Former Nello Teer Quarry Site
Durham, North Carolina

Dear Eric:

Thanks for meeting me this week at Teer. Here is a copy of the deep Type III well (recovery well) that you had asked for.

Please call if need any other materials regarding this site. You may reach me at 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

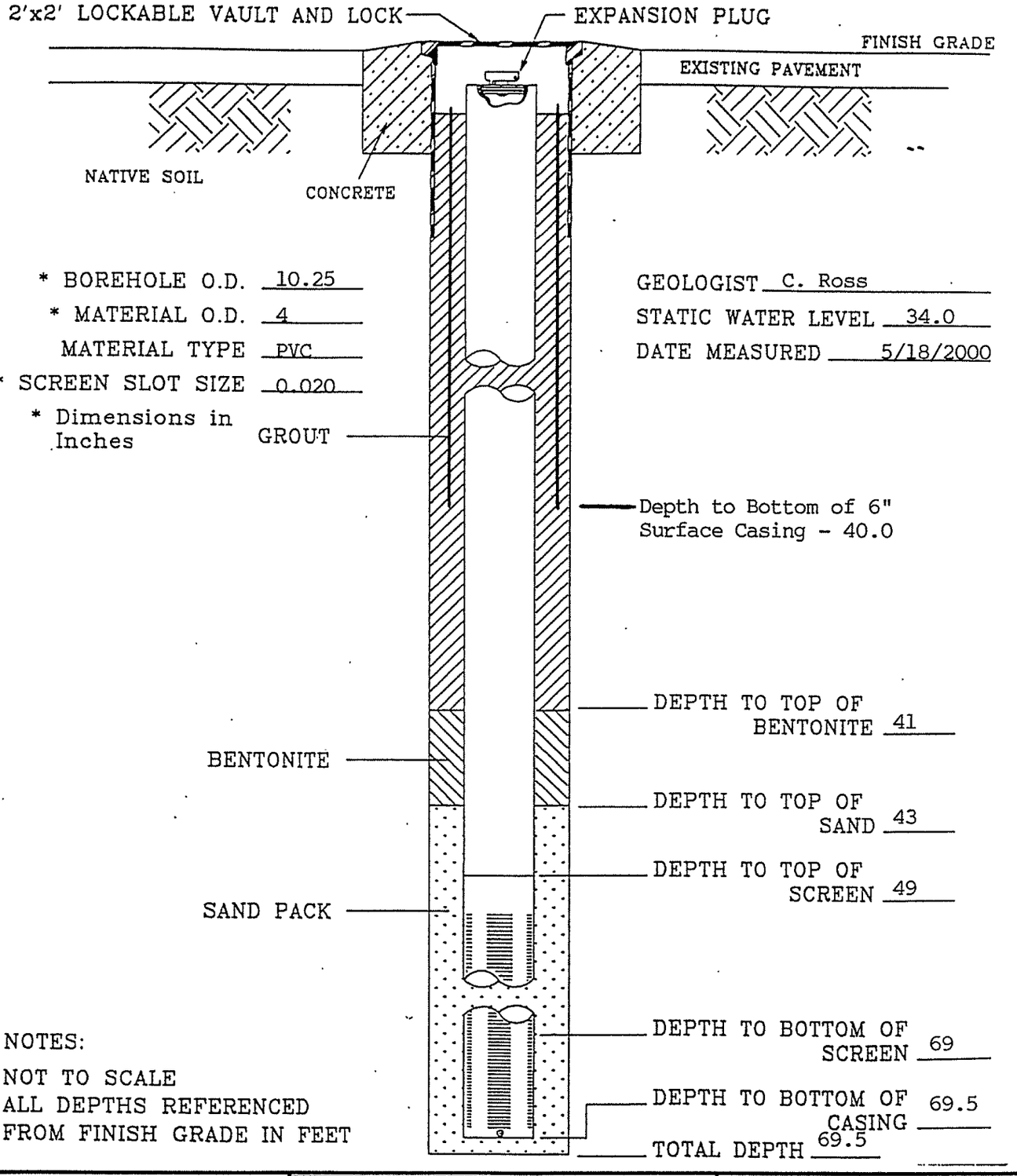
Charles C. Ross, L.G.
Project Hydrogeologist

Enclosures

L02-044:CCR

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

RECOVERY WELL SCHEMATIC



* BOREHOLE O.D. 10.25

* MATERIAL O.D. 4

MATERIAL TYPE PVC

* SCREEN SLOT SIZE 0.020

* Dimensions in Inches

GEOLOGIST C. Ross

STATIC WATER LEVEL 34.0

DATE MEASURED 5/18/2000

NOTES:

NOT TO SCALE
ALL DEPTHS REFERENCED FROM FINISH GRADE IN FEET

RW-9. Nello Teer Quarry, Denfield Street, Durham.

Quantum Environmental, Inc.
2200 Gateway Centre Blvd., Suite 205
Morrisville, NC 27560
(919) 469-9795 (919) 469-3557

FIGURE

SCALE:

Proj. No.: 0013-94-012

STATE OF NORTH CAROLINA
Department of Environment and Natural Resources
Raleigh Regional Office
3800 Barrett Drive, Suite 101, Raleigh, NC 27609
919/571-4700

File Access Record

SECTION: Dw
TIME/DATE:
NAME: Teresa Woods
REPRESENTING: H&H

Guidelines for Access: The staff of the Raleigh Regional Office is dedicated to making public records in our custody readily available to the public for review and copying. We also have the responsibility to the public to safeguard these records and to carry out our day-to-day program obligations. **Please read carefully the following guidelines before signing the form:**

1. We prefer that you call at least a day in advance to schedule an appointment to review the files. **Appointments will be scheduled between 9:00 a.m. and 3:00 p.m.** Viewing time ends at 5:00 p.m. **Anyone arriving without an appointment may view the files to the extent that time and staff supervision is available.**

2. You must specify files you want to review **by facility name.** The number of files that you may review at one time will be limited to five.

3. You may make copies of a file when the copier is not in use by the staff and if time permits. **Cost per copy is 10 cents for ALL copies if you make more than 25 copies - there is no charge for less than 25 copies; payment may be made by check, money order, or cash at the reception desk. You can also be invoiced.**

4. **FILES MUST BE KEPT IN THE ORDER YOU FOUND THEM.** Files may not be taken from the office. To remove, alter, deface, mutilate, or destroy material in one of these files is a misdemeanor for which you can be fined up to $500.00.

5. In accordance with General Statute 25-3-512, a $20.00 processing fee will be charged and collected for checks on which payment has been refused.

	FACILITY NAME	COUNTY
1.	Dello Teer	Durham
2.		
3.		
4.		
5.		

Teresa Woods | H&H | 1/18/01

Signature and Name of Firm/Business **Date**

Please attach a business card to this form

Time In **Time Out**

Quantum Environmental, Inc.

August 14, 2000

Mr. Eric Rice, P.G.
North Carolina Department of Environment and Natural Resources
Raleigh Regional Office
1628 Mail Service Center
Raleigh, N.C. 27699-1628

Re: Former Nello Teer Quarry
Denfield Street, Durham, NC
Water Well Sampling Results for W-2
Quantum Project No. 0013-94-012

Dear Mr. Rice:

On behalf of Hanson Aggregates, Quantum Environmental, Inc. (Quantum) is submitting the enclosed results of the analysis of a water well sample collected at the above referenced facility. This well, known as W-2, was sampled at two locations on July 17, 2000 for analysis of volatile organic compounds using EPA Method 601. The results indicate that perchloroethylene (PCE) was detected at a concentration of 9.2 ug/L from a tap inside an office building served by this well and 8.7 ug/L at the wellhead.

Currently this well serves as the primary source of wash and sanitary water at the site, but not drinking water. Mr. Steve Edgerton of Hanson requested that we submit these results to the DENR Raleigh Regional Office and to report that Hanson intends to permanently close this well down at the earliest possible time. Completed well abandonment forms will be submitted once this well has been properly abandoned.

Quantum hopes that this plan is acceptable to the North Carolina DENR. If you have any questions or comments pertaining to this matter, please contact me at (919) 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Charles C. Ross, P.G
Project Hydrogeologist

L00-288:CCR

Attachment

cc: Mr. Steve Edgerton, P.G. Hanson Aggregates

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

Environmental
LABORATORY SERVICES

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212
(315) 458-8033, FAX (315) 458-0249, (800) 842-4667

31

QUANTUM ENVIRONMENTAL, INC.
6001 CHAPLE HILL ROAD
SUITE 108
RALEIGH NC 27607
ATTN: MR. CHARLES ROSS

P.O. # 044339
CLIENT JOB NUMBER:

PROJECT #: 994593
RECEIVED: 07/17/00

JOB ADDRESS : NELLO-TEER
JOB #: 0013-94-012

Revised & Reissued 07/27/00 TC

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 177650 CLIENT SAMPLE ID: WW-1 (INSIDE BLDG.)				**DATE SAMPLED: 07/17/00**	
VOL. HALOCARBONS - EPA 601	SEE ATTACHED		07/20/00	EPA 601	11342 (NC)
SAMPLE #: 177651 CLIENT SAMPLE ID: WW-2 (WELLHEAD)				**DATE SAMPLED: 07/17/00**	
VOL. HALOCARBONS - EPA 601	SEE ATTACHED		07/20/00	EPA 601	11342 (NC)

Douglas W. Mendrala
Laboratory Director

07/25/00
Date

All tests performed under NYS ELAP Laboratory Certification # 11375 unless otherwise stated.
Laboratory Certification #

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

ANALYTICAL REPORT

ELS: ENVIRONMENTAL LAB-SERVICE 2307
TONY D'AMICO
7820 CASWELL STREET
N. SYRACUSE, NY 13212

Project: 0013-94-012
Project Name:
Sampler: C.C.R.

Lab Number: 00-A99989
Sample ID: WW-1 (INSIDE BLDG.) 177650
Sample Type: Water
Site ID:

Date Collected: 7/17/00
Time Collected: 8:20
Date Received: 7/18/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS by GC										
Chlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	602/601	8582
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	602/601	8582
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	602/601	8582
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	602/601	8582
Bromodichloromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Bromoform	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Bromomethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Carbon tetrachloride	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Chloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
2-Chloroethylvinylether	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Chloroform	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Chloromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Dibromochloromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Ethylene Dibromide	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Vinyl chloride	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Dichlorodifluoromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,1-Dichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,2-Dichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,1-Dichloroethene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
cis-1,2-Dichloroethene	1.5	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
trans-1,2-Dichloroethene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,2-Dichloropropane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
cis-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
trans-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Methylene chloride	ND	ug/l	5.0	5.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Tetrachloroethene	9.2	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,1,1-Trichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
1,1,2-Trichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582

Sample report continued . . .

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

ANALYTICAL REPORT

Laboratory Number: OO-A99989
Sample ID: WW-1 (INSIDE BLDG.)

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Trichloroethene	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582
Trichlorofluoromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:11	M.Hinelick	601	8582

This sample was received at 4.5 degrees C and analyzed per client's request.

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
PID Surr., a,a,a-trifluorotoluene	98.	50. - 150.
Hall Surr., 2-chloropropane	76.	49. - 123.
Hall Surr., chloroprene	77.	63. - 122.
Hall Surr., 1-chloro-3-fluorobenzene	103.	59. - 117.

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: Pamela Langford Report Date: 7/21/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 11342

End of Sample Report.

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

ANALYTICAL REPORT

ELS: ENVIRONMENTAL LAB-SERVICE 2307
TONY D'AMICO
7820 CASWELL STREET
N. SYRACUSE, NY 13212

Project: 0013-94-012
Project Name:
Sampler: C.C.R.

Lab Number: 00-A99990
Sample ID: WW-2 (WELL HEAD)
Sample Type: Water
Site ID:

Date Collected: 7/17/00
Time Collected: 8:15
Date Received: 7/18/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS by GC*										
Chlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	602/601	8582
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	602/601	8582
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	602/601	8582
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	602/601	8582
Bromodichloromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Bromoform	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Bromomethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Carbon tetrachloride	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Chloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
2-Chloroethylvinylether	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Chloroform	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Chloromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Dibromochloromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Ethylene Dibromide	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Vinyl chloride	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Dichlorodifluoromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,1-Dichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,2-Dichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,1-Dichloroethene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
cis-1,2-Dichloroethene	1.2	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
trans-1,2-Dichloroethene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,2-Dichloropropane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
cis-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
trans-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Methylene chloride	ND	ug/l	5.0	5.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Tetrachloroethene	6.7	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,1,1-Trichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
1,1,2-Trichloroethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582

Sample report continued . . .

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

ANALYTICAL REPORT

Laboratory Number: OO-A99990
Sample ID: WW-2 (WELL HEAD)

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Trichloroethene	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582
Trichlorofluoromethane	ND	ug/l	1.0	1.0	1	7/20/00	17:52	M.Hinelick	601	8582

This sample was received at 4.5 degrees C and analyzed per client's request.

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
FID Surr., a,a,a-trifluorotoluene	98.	50. - 150.
Hall Surr., 2-chloropropane	76.	49. - 123.
Hall Surr., chloroprene	77.	63. - 122.
Hall Surr., 1-chloro-3-fluorobenzene	105.	59. - 117.

Report Approved By: _____ Report Date: 7/21/00

Laboratory Certification Number: 11342

End of Sample Report.

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	Units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	R.C. Batch	Spike Sample
Chlorobenzene	ug/l	< 0.0010	0.0222	0.0200	111	55. - 135.	8582	00-A99990
1,2-Dichlorobenzene	ug/l	< 0.0010	0.0210	0.0200	105	37. - 154.	8582	00-A99990
1,3-Dichlorobenzene	ug/l	< 0.0010	0.0186	0.0200	93	50. - 141.	8582	00-A99990
1,4-Dichlorobenzene	ug/l	< 0.0010	0.0215	0.0200	108	42. - 143.	8582	00-A99990
Bromodichloromethane	ug/l	< 0.0010	0.0208	0.0200	104	42. - 172.	8582	00-A99990
Bromoform	ug/l	< 0.0010	0.0189	0.0200	94	13. - 159.	8582	00-A99990
Bromomethane	ug/l	< 0.0010	0.0180	0.0200	90	10. - 144.	8582	00-A99990
Carbon tetrachloride	ug/l	< 0.0010	0.0215	0.0200	108	43. - 143.	8582	00-A99990
Chloroethane	ug/l	< 0.0010	0.0214	0.0200	107	46. - 137.	8582	00-A99990
2-Chloroethylvinylether	ug/l	< 0.0010	< 0.0010	0.0200	N/A	14. - 186.	8582	00-A99990
Chloroform	ug/l	< 0.0010	0.0196	0.0200	98	49. - 133.	8582	00-A99990
Chloromethane	ug/l	< 0.0010	0.0191	0.0200	96	10. - 193.	8582	00-A99990
Dibromochloromethane	ug/l	< 0.0010	0.0190	0.0200	95	24. - 191.	8582	00-A99990
Vinyl chloride	ug/l	< 0.0010	0.0193	0.0200	96	28. - 163.	8582	00-A99990
1,1-Dichloroethane	ug/l	< 0.0010	0.0207	0.0200	104	47. - 132.	8582	00-A99990
1,2-Dichloroethane	ug/l	< 0.0010	0.0184	0.0200	92	51. - 147.	8582	00-A99990
1,1-Dichloroethene	ug/l	< 0.0010	0.0204	0.0200	102	28. - 167.	8582	00-A99990
cis-1,2-Dichloroethene	ug/l	0.0012	0.0198	0.0200	93	76. - 123.	8582	00-A99990
trans-1,2-Dichloroethene	ug/l	< 0.0010	0.0200	0.0200	100	38. - 155.	8582	00-A99990
1,2-Dichloropropane	ug/l	< 0.0010	0.0186	0.0200	93	44. - 156.	8582	00-A99990
cis-1,3-Dichloropropene	ug/l	< 0.0010	0.0197	0.0200	98	22. - 178.	8582	00-A99990
trans-1,3-Dichloropropene	ug/l	< 0.0010	0.0176	0.0200	88	22. - 178.	8582	00-A99990
Methylene chloride	ug/l	< 0.0050	0.0208	0.0200	104	25. - 162.	8582	00-A99990
1,1,2,2-Tetrachloroethane	ug/l	< 0.0010	0.0186	0.0200	93	8. - 184.	8582	00-A99990
Tetrachloroethene	ug/l	0.0087	0.0366	0.0200	140	26. - 162.	8582	00-A99990
1,1,1-Trichloroethane	ug/l	< 0.0010	0.0202	0.0200	101	41. - 138.	8582	00-A99990
1,1,2-Trichloroethane	ug/l	< 0.0010	0.0198	0.0200	99	39. - 136.	8582	00-A99990
Trichloroethene	ug/l	< 0.0010	0.0226	0.0200	113	35. - 146.	8582	00-A99990
Trichlorofluoromethane	ug/l	< 0.0010	0.0206	0.0200	103	21. - 156.	8582	00-A99990

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	R.C. Batch
Chlorobenzene	ug/l	0.0500	0.0511	102	81 - 120	8582
1,2-Dichlorobenzene	ug/l	0.0500	0.0486	97	68 - 132	8582
1,3-Dichlorobenzene	ug/l	0.0500	0.0488	98	73 - 128	8582
1,4-Dichlorobenzene	ug/l	0.0500	0.0491	98	70 - 131	8582
Bromodichloromethane	ug/l	0.0500	0.0504	101	76 - 124	8582
Bromoform	ug/l	0.0500	0.0467	94	74 - 127	8582
Bromomethane	ug/l	0.0500	0.0473	95	58 - 142	8582
Carbon tetrachloride	ug/l	0.0500	0.0498	100	69 - 132	8582

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	R.C. Batch
Chloroethane	ug/l	0.0500	0.0522	104	77 - 123	8582
2-Chloroethylvinylether	ug/l	0.0500	0.0434	87	60 - 140	8582
Chloroform	ug/l	0.0500	0.0527	105	75 - 125	8582
Chloromethane	ug/l	0.0500	0.0514	103	60 - 141	8582
Dibromochloromethane	ug/l	0.0500	0.0482	96	66 - 135	8582
Ethylene Dibromide	ug/l	0.0500	0.0470	94	70 - 130	8582
Vinyl chloride	ug/l	0.0500	0.0509	102	70 - 130	8582
Dichlorodifluoromethane	ug/l	0.0500	0.0498	100	70 - 130	8582
1,1-Dichloroethane	ug/l	0.0500	0.0512	102	84 - 116	8582
1,2-Dichloroethane	ug/l	0.0500	0.0500	100	72 - 129	8582
1,1-Dichloroethene	ug/l	0.0500	0.0492	98	63 - 137	8582
cis-1,2-Dichloroethene	ug/l	0.0500	0.0498	100	70 - 130	8582
trans-1,2-Dichloroethene	ug/l	0.0500	0.0507	101	64 - 136	8582
1,2-Dichloropropane	ug/l	0.0500	0.0500	100	74 - 126	8582
cis-1,3-Dichloropropene	ug/l	0.0500	0.0482	96	63 - 136	8582
trans-1,3-Dichloropropene	ug/l	0.0500	0.0467	93	70 - 130	8582
Methylene chloride	ug/l	0.0500	0.0524	105	78 - 123	8582
1,1,2,2-Tetrachloroethane	ug/l	0.0500	0.0478	96	49 - 151	8582
Tetrachloroethene	ug/l	0.0500	0.0540	108	70 - 130	8582
1,1,1-Trichloroethane	ug/l	0.0500	0.0474	95	71 - 129	8582
1,1,2-Trichloroethane	ug/l	0.0500	0.0501	100	79 - 122	8582
Trichloroethene	ug/l	0.0500	0.0478	96	77 - 123	8582
Trichlorofluoromethane	ug/l	0.0500	0.0520	104	67 - 134	8582

Blank Data

Analyte	Blank Value	Units	R.C. Batch
Chlorobenzene	< 0.0010	ug/l	8582
1,2-Dichlorobenzene	< 0.0010	ug/l	8582
1,3-Dichlorobenzene	< 0.0010	ug/l	8582
1,4-Dichlorobenzene	< 0.0010	ug/l	8582
Bromodichloromethane	< 0.0010	ug/l	8582
Bromoform	< 0.0010	ug/l	8582
Bromomethane	< 0.0010	ug/l	8582
Carbon tetrachloride	< 0.0010	ug/l	8582
Chloroethane	< 0.0010	ug/l	8582
2-Chloroethylvinylether	< 0.0010	ug/l	8582
Chloroform	< 0.0010	ug/l	8582
Chloromethane	< 0.0010	ug/l	8582
Dibromochloromethane	< 0.0010	ug/l	8582
Ethylene Dibromide	< 0.0010	ug/l	8582

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Vinyl chloride	< 0.0010	ug/l	8582
Dichlorodifluoromethane	< 0.0010	ug/l	8582
1,1-Dichloroethane	< 0.0010	ug/l	8582
1,2-Dichloroethane	< 0.0003	ug/l	8582
1,1-Dichloroethene	< 0.0010	ug/l	8582
cis-1,2-Dichloroethene	< 0.0010	ug/l	8582
trans-1,2-Dichloroethene	< 0.0010	ug/l	8582
1,2-Dichloropropane	< 0.0010	ug/l	8582
cis-1,3-Dichloropropene	< 0.0010	ug/l	8582
trans-1,3-Dichloropropene	< 0.0010	ug/l	8582
Methylene chloride	< 0.0050	ug/l	8582
1,1,2,2-Tetrachloroethane	< 0.0010	ug/l	8582
Tetrachloroethene	< 0.0010	ug/l	8582
1,1,1-Trichloroethane	< 0.0010	ug/l	8582
1,1,2-Trichloroethane	< 0.0010	ug/l	8582
Trichloroethene	< 0.0010	ug/l	8582
Trichlorofluoromethane	< 0.0010	ug/l	8582

End of Report for Project 200223

TESTAMERICA INC. 00-0543

Chain of Custody Record — Page 1 of 1

☐ Asheville, NC (A) (828) 254-5189 ☐ Bartlett, IL (C) (630) 289-3100 ☐ Cedar Falls, IA (E) (319) 277-2401 ☐ Charlotte, NC (G) (704) 192-1181 ☐ Dayton, OH (I) (937) 294-6856 ☐ Lumberton, NC (K) (910) 930-0193 ☐ Nashville, TN (M) (615) 726-0177 ☐ Pontiac, MI (O) (248) 332-1940 ☐ Rockford, IL (Q) (815) 874-2131

☐ Atlanta, GA (B) (770) 368-0636 ☐ Brighton, CO (D) (303) 659-0497 ☐ Charleston, SC (F) (843) 849-6550 ☐ Columbia, SC (H) (803) 796-8989 ☐ Davenport, IA (J) (319) 323-7944 ☐ Indianapolis, IN (L) (317) 842-4261 ☐ Macon, GA (N) (912) 757-0811 ☐ Orlando, FL (P) (407) 851-2560 ☐ Watertown, WI (R) (920) 261-1660

Client: ELS	Project No.: 0013-94-012
Report Address: 7250 Caswell St., N. Hancock Air Park, Syracuse, N.Y.	Invoice Address: Same
Attn: E. Boyd	Attn: C. Ross
Phone No.: (315) 458-8037	Sampled By: CCR
Fax No.: (315) 458-0249	P.O. No:
TURNAROUND TIME ☑ Standard ☐ Rush (surcharges may apply)	Quote No.
	State Samples Collected: NC
	Date Needed: 7-25-00

REQUESTED PARAMETERS

601

Is this work being conducted for regulatory compliance monitoring? Yes ✓ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ✓

Which regulations apply:
RCRA ___ NPDES Wastewater ___
UST ___ Drinking Water ___
Other ✓ None ___
2L mtls

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	601	# and type of containers: HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
17650 WW-1 (inside bldg)	7/17	8:20	G	H_2O		X	3						inside office bldg.
WW-2 (wellhead)	"	8:15	"	"		X	3						at wellhead
17651													

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Received Intact — Init Lab Temp — Rec Lab Temp

COMMENTS:

Relinquished By:	Date 7/17 Time 8:55	Received By:	Date 7/18/00 Time 8:55	LAB USE ONLY:
Relinquished By:	Date Time	Received By:	Date Time	
Relinquished By:	Date Time	Received By:	Date Time	Custody Seal: ☐ Yes ☐ No ☐ N/A
Relinquished By:	Date Time	Received By:	Date Time	Bottles Supplied by TA: ☐ Yes ☐ No

07-17-00 MON 10:31 FAX 919 4693557

002

Quantum Environmental, Inc.

June 23, 2000

Mr. Eric Rice
NCDENR - Raleigh Regional Office
3800 Barrett Drive
Raleigh, North Carolina 27609

Re: Nello Teer Quarry Site
GW Incident No. 9357
Site Ranking 110B

Mr. Rice:

I spoke recently with the tenant of the Hanson Aggregates site (Nello Teer Equipment Division) who had initially requested that the water well they use for hand washing be tested for volatiles. He has since agreed to pay the nominal fee for testing, and I sampled the water yesterday - June 22 for 601/602. I will let you know the results as soon as I receive them.

Thus, the letter to the client may not be necessary at this time, as we have already sampled the well water and submitted the samples to the laboratory. I will keep you updated on any new developments concerning this site.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Charles C. Ross, P.G.
Project Hydrogeologist

L00-233:CCR

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

Eric Nello Teer
Water Supply Well
Samples per charles
Ross Quantum

TestAmerica
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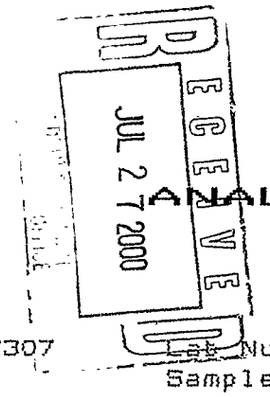
Fax: 615-726-0954



ANALYTICAL REPORT

ELS: ENVIRONMENTAL LAB-SERVICE 2307
TONY D'AMICO
7820 CASWELL STREET
N. SYRACUSE, NY 13212

Project: 0013-94-012
Project Name:
Sampler: C.C.ROSS
charles Quantum

Lab Number: 00-A88027
Sample ID: WW-1 177205
Sample Type: Water
Site ID:

Date Collected: 6/22/00
Time Collected: 10:40
Date Received: 6/23/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
%VOLATILE ORGANICS by GC%										
Benzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
Chlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
Ethylbenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
Toluene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
m,p-Xylenes	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
o-Xylene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
Bromodichloromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Bromoform	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Bromomethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Carbon tetrachloride	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Chloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
2-Chloroethylvinylether	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Chloroform	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Chloromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Dibromochloromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Ethylene Dibromide	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Vinyl chloride	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Dichlorodifluoromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,1-Dichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,2-Dichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,1-Dichloroethene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
cis-1,2-Dichloroethene	1.5	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
trans-1,2-Dichloroethene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,2-Dichloropropane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
cis-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
trans-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628

Sample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: 00-A88027
Sample ID: WW-1

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Methylene chloride	ND	ug/l	5.0	5.0	1	6/29/00	23:32	S. Wani	601	5628
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Tetrachloroethene	8.8	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,1,1-Trichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,1,2-Trichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Trichloroethene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Trichlorofluoromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
PID Surr., a,a,a-trifluorotoluene	97.	50. - 150.
Hall Surr., 2-chloropropane	69.	49. - 123.
Hall Surr., chloroprene	70.	63. - 122.
Hall Surr., 1-chloro-3-fluorobenzene	106.	59. - 117.

These results relate only to the items tested.
This report shall not be reproduced except in full and with permission of the laboratory.

Report Approved By: E. S Stk Report Date: 6/30/00

Theodore J. Buello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 387

End of Sample Report.

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PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
Benzene	ug/l	< 0.0010	0.0220	0.0200	110	39. - 150.	5628	08-A88027
Chlorobenzene	ug/l	< 0.0010	0.0195	0.0200	98	55. - 135.	5628	08-A88027
1,2-Dichlorobenzene	ug/l	< 0.0010	0.0168	0.0200	84	37. - 154.	5628	08-A88027
1,3-Dichlorobenzene	ug/l	< 0.0010	0.0206	0.0200	103	50. - 141.	5628	08-A88027
1,4-Dichlorobenzene	ug/l	< 0.0010	0.0176	0.0200	88	42. - 143.	5628	08-A88027
Ethylbenzene	ug/l	< 0.0010	0.0225	0.0200	112	32. - 160.	5628	08-A88027
Toluene	ug/l	< 0.0010	0.0220	0.0200	110	46. - 148.	5628	08-A88027
o-Xylene	ug/l	< 0.0010	0.0222	0.0200	111	74. - 126.	5628	08-A88027
Bromodichloromethane	ug/l	< 0.0010	0.0223	0.0200	112	42. - 172.	5628	08-A88027
Bromoform	ug/l	< 0.0010	0.0175	0.0200	88	13. - 159.	5628	08-A88027
Bromomethane	ug/l	< 0.0010	0.0238	0.0200	119	10. - 144.	5628	08-A88027
Carbon tetrachloride	ug/l	< 0.0010	0.0218	0.0200	109	43. - 143.	5628	08-A88027
Chloroethane	ug/l	< 0.0010	0.0243	0.0200	122	46. - 137.	5628	08-A88027
2-Chloroethylvinylether	ug/l	< 0.0010	< 0.0010	0.0200	N/A	14. - 186.	5628	08-A88027
Chloroform	ug/l	< 0.0010	0.0209	0.0200	104	49. - 133.	5628	08-A88027
Chloromethane	ug/l	< 0.0010	0.0297	0.0200	148	10. - 193.	5628	08-A88027
Dibromochloromethane	ug/l	< 0.0010	0.0201	0.0200	100	24. - 191.	5628	08-A88027
Vinyl chloride	ug/l	< 0.0010	0.0247	0.0200	124	28. - 163.	5628	08-A88027
1,1-Dichloroethane	ug/l	< 0.0010	0.0207	0.0200	104	47. - 132.	5628	08-A88027
1,2-Dichloroethane	ug/l	< 0.0010	0.0193	0.0200	96	51. - 147.	5628	08-A88027
1,1-Dichloroethene	ug/l	< 0.0010	0.0214	0.0200	107	28. - 167.	5628	08-A88027
cis-1,2-Dichloroethene	ug/l	0.0015	0.0203	0.0200	94	76. - 123.	5628	08-A88027
trans-1,2-Dichloroethene	ug/l	< 0.0010	0.0208	0.0200	104	38. - 155.	5628	08-A88027
1,2-Dichloropropane	ug/l	< 0.0010	0.0203	0.0200	102	44. - 156.	5628	08-A88027
cis-1,3-Dichloropropene	ug/l	< 0.0010	0.0184	0.0200	92	22. - 178.	5628	08-A88027
trans-1,3-Dichloropropene	ug/l	< 0.0010	0.0179	0.0200	90	22. - 178.	5628	08-A88027
Methylene chloride	ug/l	< 0.0050	0.0194	0.0200	97	25. - 162.	5628	08-A88027
1,1,2,2-Tetrachloroethane	ug/l	< 0.0010	0.0211	0.0200	106	8. - 184.	5628	08-A88027
Tetrachloroethene	ug/l	0.0068	0.0324	0.0200	118	26. - 162.	5628	08-A88027
1,1,1-Trichloroethane	ug/l	< 0.0010	0.0226	0.0200	113	41. - 138.	5628	08-A88027
1,1,2-Trichloroethane	ug/l	< 0.0010	0.0207	0.0200	104	39. - 136.	5628	08-A88027
Trichloroethene	ug/l	< 0.0010	0.0218	0.0200	109	35. - 146.	5628	08-A88027
Trichlorofluoromethane	ug/l	< 0.0010	0.0216	0.0200	108	21. - 156.	5628	08-A88027

Laboratory Control Data

Analyte	units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	ug/l	0.0200	0.0211	106	77 - 123	5628
Chlorobenzene	ug/l	0.0200	0.0230	115	81 - 120	5628
1,2-Dichlorobenzene	ug/l	0.0200	0.0221	110	68 - 132	5628
1,3-Dichlorobenzene	ug/l	0.0200	0.0175	88	73 - 126	5628

Project QC continued . . .

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PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	B.C. Batch
1,4-Dichlorobenzene	ng/l	0.0200	0.0223	112	70 - 131	5628
Ethylbenzene	ng/l	0.0200	0.0217	108	63 - 137	5628
Toluene	ng/l	0.0200	0.0216	108	78 - 123	5628
m,p-Xylenes	ng/l	0.0400	0.0440	110	70 - 130	5628
o-Xylene	ng/l	0.0200	0.0216	108	70 - 130	5628
Bromodichloromethane	ng/l	0.0200	0.0220	110	76 - 124	5628
Bromoform	ng/l	0.0200	0.0187	94	74 - 127	5628
Bromomethane	ng/l	0.0200	0.0201	100	59 - 142	5628
Carbon tetrachloride	ng/l	0.0200	0.0208	104	69 - 132	5628
Chloroethane	ng/l	0.0200	0.0269	134 #	77 - 123	5628
2-Chloroethylvinylether	ng/l	0.0200	0.0156	78	60 - 140	5628
Chloroform	ng/l	0.0200	0.0214	107	75 - 125	5628
Chloromethane	ng/l	0.0200	0.0305	152 #	60 - 141	5628
Dibromochloromethane	ng/l	0.0200	0.0200	100	66 - 135	5628
Ethylene Dibromide	ng/l	0.0200	0.0189	94	70 - 130	5628
Vinyl chloride	ng/l	0.0200	0.0212	106	70 - 130	5628
Dichlorodifluoromethane	ng/l	0.0200	0.0165	82	70 - 130	5628
1,1-Dichloroethane	ng/l	0.0200	0.0236	118 #	84 - 116	5628
1,2-Dichloroethane	ng/l	0.0200	0.0187	94	72 - 129	5628
1,1-Dichloroethene	ng/l	0.0200	0.0212	106	63 - 137	5628
cis-1,2-Dichloroethene	ng/l	0.0200	0.0201	100	70 - 130	5628
trans-1,2-Dichloroethene	ng/l	0.0200	0.0233	116	64 - 136	5628
1,2-Dichloropropane	ng/l	0.0200	0.0190	95	74 - 126	5628
cis-1,3-Dichloropropene	ng/l	0.0200	0.0208	104	63 - 136	5628
trans-1,3-Dichloropropene	ng/l	0.0200	0.0182	91	70 - 130	5628
Methylene chloride	ng/l	0.0200	0.0242	121	78 - 123	5628
1,1,2,2-Tetrachloroethane	ng/l	0.0200	0.0204	102	49 - 151	5628
Tetrachloroethene	ng/l	0.0200	0.0205	102	70 - 130	5628
1,1,1-Trichloroethane	ng/l	0.0200	0.0214	107	71 - 129	5628
1,1,2-Trichloroethane	ng/l	0.0200	0.0217	108	79 - 122	5628
Trichloroethene	ng/l	0.0200	0.0198	99	77 - 123	5628
Trichlorofluoromethane	ng/l	0.0200	0.0195	98	67 - 134	5628

Blank Data

Analyte	Blank Value	Units	B.C. Batch
Benzene	< 0.0010	ng/l	5628
Chlorobenzene	< 0.0010	ng/l	5628
1,2-Dichlorobenzene	< 0.0010	ng/l	5628
1,3-Dichlorobenzene	< 0.0010	ng/l	5628
1,4-Dichlorobenzene	< 0.0010	ng/l	5628

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PROJECT QUALITY CONTROL DATA

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Ethylbenzene	< 0.0010	ng/l	5628
Toluene	< 0.0010	ng/l	5628
m,p-Xylenes	< 0.0010	ng/l	5628
o-Xylene	< 0.0010	ng/l	5628
Bromodichloromethane	< 0.0010	ng/l	5628
Bromoform	< 0.0010	ng/l	5628
Bromomethane	< 0.0010	ng/l	5628
Carbon tetrachloride	< 0.0010	ng/l	5628
Chloroethane	< 0.0010	ng/l	5628
2-Chloroethylvinylether	< 0.0010	ng/l	5628
Chloroform	< 0.0010	ng/l	5628
Chloromethane	< 0.0010	ng/l	5628
Dibromochloromethane	< 0.0010	ng/l	5628
Ethylene Dibromide	< 0.0010	ng/l	5628
Vinyl chloride	< 0.0010	ng/l	5628
Dichlorodifluoromethane	< 0.0010	ng/l	5628
1,1-Dichloroethane	< 0.0010	ng/l	5628
1,2-Dichloroethane	< 0.0010	ng/l	5628
1,1-Dichloroethene	< 0.0010	ng/l	5628
cis-1,2-Dichloroethene	< 0.0010	ng/l	5628
trans-1,2-Dichloroethene	< 0.0010	ng/l	5628
1,2-Dichloropropane-	< 0.0010	ng/l	5628
cis-1,3-Dichloropropene	< 0.0010	ng/l	5628
trans-1,3-Dichloropropene	< 0.0010	ng/l	5628
Methylene chloride	< 0.0050	ng/l	5628
1,1,2,2-Tetrachloroethane	< 0.0010	ng/l	5628
Tetrachloroethene	< 0.0010	ng/l	5628
1,1,1-Trichloroethane	< 0.0010	ng/l	5628
1,1,2-Trichloroethane	< 0.0010	ng/l	5628
Trichloroethene	< 0.0010	ng/l	5628
Trichlorofluoromethane	< 0.0010	ng/l	5628

End of Report For Project 197280

TESTAMERICA INC.

Chain of Custody Record

☐ Asheville, NC (A) (828) 254-5169 ☐ Bartlett, IL (C) (630) 289-3100 ☐ Cedar Falls, IA (E) (319) 277-2401 ☐ Charlotte, NC (G) (704) 393-4164 ☐ Dayton, OH (I) (937) 294-6855 ☐ Lumberton, NC (K) (910) 738-0190 ☐ Nashville, TN (M) (615) 726-0177 ☐ Pontiac, MI (O) (248) 332-1940 ☐ Rockford, IL (Q) (815) 874-2171

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Client: [redacted] ELS / Quanta	Project No.: 0017-94-017
Report Address: 7250 Syracuse NY	Invoice Address: Same
Attn: E. Boyd	Attn: C. Ross
Phone No.: (315) 458-8033	Sampled By: C. C. Ross
Fax No.: 458-0249	P.O. No.:
TURNAROUND TIME	Quote No.
☑ Standard	State Samples Collected NY
☐ Rush (surcharges may apply).	Date Needed:

REQUESTED PARAMETERS

601 602 00-0482

Is this work being conducted for regulatory compliance monitoring? Yes___ No✓

Is this work being conducted for regulatory enforcement action? Yes___ No✓

Which regulations apply:
RCRA___ NPDES Wastewater___
UST___ Drinking Water___
Other___ None✓

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	601	602	00-0482	# and type of containers: HCl	NaOH	HNO3	H2SO4	Other	None	REMARKS
WW-1	6/22	10:40	G	H2O		X	X		3						177205
177206 EB-1/7/06															

QC Deliverables: ☑ None ☐ Level 2 ☐ Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Initial Lab Temp: Rec Lab Temp:

COMMENTS:

Relinquished By:	Date 6/22 Time 12:30	Received By:	Date 6/22 Time 12:30	LAB USE ONLY:	
Relinquished By:	Date Time	Received By:	Date Time		
Relinquished By:	Date Time	Received By:	Date Time	Custody Seal: ☐ Yes ☐ No ☐ N/A	
Relinquished By:	Date Time	Received By:	Date Time		

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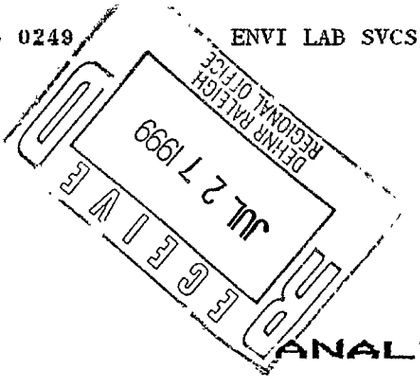

ANALYTICAL REPORT

ELS: ENVIRONMENTAL LAB-SERVICE 2307
TONY D'AMICO
7320 CASWELL STREET
N. SYRACUSE, NY 13212

Project: 0013-94-012
Project Name:
Sampler: C. C. ROSS

Lab Number: 00-A88027
Sample ID: WW-1 177205
Sample Type: Water
Site ID:

Date Collected: 6/22/00
Time Collected: 10:40
Date Received: 6/23/00
Time Received: 9:00

Analyte	Result	Units	Report Limit	Room Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
VOLATILE ORGANICS by GC/MS										
Benzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
Chlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
1,2-Dichlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
1,3-Dichlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
1,4-Dichlorobenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602/601	5628
Ethylbenzene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
Toluene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
m,p-Xylenes	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
o-Xylene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	602	5628
Bromodichloromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Bromoform	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Bromomethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Carbon tetrachloride	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Chloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
2-Chloroethylvinylether	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Chloroform	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Chloromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Dibromochloromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Ethylene Dibromide	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Vinyl chloride	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
Dichlorodifluoromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,1-Dichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,2-Dichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,1-Dichloroethene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
cis-1,2-Dichloroethene	1.5	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
trans-1,2-Dichloroethene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
1,2-Dichloropropane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
cis-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628
trans-1,3-Dichloropropene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5628

ample report continued . . .

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ANALYTICAL REPORT

Laboratory Number: OO-A85027
Sample ID: WW-1

Analyte	Result	Units	Report Limit	Run Limit	Dil Factor	Analysis Date	Analysis Time	Analyst	Method	Batch
Methylene chloride	ND	ug/l	5.0	5.0	1	6/29/00	23:32	S. Wani	601	5626
1,1,2,2-Tetrachloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5626
Tetrachloroethene	8.8	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5626
1,1,1-Trichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5626
1,1,2-Trichloroethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5626
Trichloroethene	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5626
Trichlorofluoromethane	ND	ug/l	1.0	1.0	1	6/29/00	23:32	S. Wani	601	5626

ND = Not detected at the report limit.

Surrogate	% Recovery	Target Range
PID Surr., a,a,a-trifluorotoluene	97.	50. - 150.
Hall Surr., 2-chloropropane	65.	45. - 129.
Hall Surr., chloroprene	70.	65. - 122.
Hall Surr., 1-chloro-3-fluorobenzene	106.	59. - 117.

These results relate only to the items tested.
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Report Approved By: E. S Stt Report Date: 6/30/00

Theodore J. Duello, Ph.D., Technical Serv.
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Serv.
Eric S. Smith, Assistant Technical Director
Gail A Lage, Technical Serv.
Paul E. Lane, Jr., Lab Director
Glenn L. Norton, Technical Serv.
Kelly S. Comstock, Technical Serv.
Pamela A. Langford, Technical Serv.

Laboratory Certification Number: 337

End of Sample Report.

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PROJECT QUALITY CONTROL DATA

Matrix Spike Recovery

Analyte	Units	Orig. Val.	MS Val	Spike Conc	Recovery	Target Range	Q.C. Batch	Spike Sample
Benzene	ug/l	< 0.0010	0.0220	0.0200	110	39. - 150.	5628	00-A88027
Chlorobenzene	ug/l	< 0.0010	0.0195	0.0200	98	33. - 133.	5628	00-A88027
1,2-Dichlorobenzene	ug/l	< 0.0010	0.0168	0.0200	84	37. - 134.	5628	00-A88027
1,3-Dichlorobenzene	ug/l	< 0.0010	0.0206	0.0200	103	30. - 141.	5628	00-A88027
1,4-Dichlorobenzene	ug/l	< 0.0010	0.0176	0.0200	88	42. - 143.	5628	00-A88027
Ethylbenzene	ug/l	< 0.0010	0.0225	0.0200	112	32. - 160.	5628	00-A88027
Toluene	ug/l	< 0.0010	0.0220	0.0200	110	46. - 148.	5628	00-A88027
o-Xylene	ug/l	< 0.0010	0.0222	0.0200	111	74. - 128.	5628	00-A88027
Bromodichloromethane	ug/l	< 0.0010	0.0223	0.0200	112	42. - 172.	5628	00-A88027
Bromoform	ug/l	< 0.0010	0.0175	0.0200	88	13. - 159.	5628	00-A88027
Bromomethane	ug/l	< 0.0010	0.0258	0.0200	129	10. - 144.	5628	00-A88027
Carbon tetrachloride	ug/l	< 0.0010	0.0218	0.0200	109	43. - 143.	5628	00-A88027
Chloroethane	ug/l	< 0.0010	0.0243	0.0200	122	46. - 137.	5628	00-A88027
2-Chloroethylvinylether	ug/l	< 0.0010	< 0.0010	0.0200	N/D	14. - 186.	5628	00-A88027
Chloroform	ug/l	< 0.0010	0.0209	0.0200	104	49. - 133.	5628	00-A88027
Chloromethane	ug/l	< 0.0010	0.0297	0.0200	148	10. - 193.	5628	00-A88027
Dibromochloromethane	ug/l	< 0.0010	0.0201	0.0200	100	24. - 191.	5628	00-A88027
Vinyl chloride	ug/l	< 0.0010	0.0247	0.0200	124	28. - 163.	5628	00-A88027
1,1-Dichloroethane	ug/l	< 0.0010	0.0207	0.0200	104	47. - 132.	5628	00-A88027
1,2-Dichloroethane	ug/l	< 0.0010	0.0193	0.0200	96	51. - 147.	5628	00-A88027
1,1-Dichloroethene	ug/l	< 0.0010	0.0214	0.0200	107	28. - 187.	5628	00-A88027
cis-1,2-Dichloroethene	ug/l	0.0015	0.0203	0.0200	94	76. - 123.	5628	00-A88027
trans-1,2-Dichloroethene	ug/l	< 0.0010	0.0208	0.0200	104	38. - 155.	5628	00-A88027
1,2-Dichloropropane	ug/l	< 0.0010	0.0203	0.0200	102	44. - 156.	5628	00-A88027
cis-1,3-Dichloropropene	ug/l	< 0.0010	0.0184	0.0200	92	22. - 178.	5628	00-A88027
trans-1,3-Dichloropropene	ug/l	< 0.0010	0.0179	0.0200	90	22. - 178.	5628	00-A88027
Methylene chloride	ug/l	< 0.0050	0.0194	0.0200	97	25. - 162.	5628	00-A88027
1,1,2,2-Tetrachloroethane	ug/l	< 0.0010	0.0211	0.0200	106	8. - 184.	5628	00-A88027
Tetrachloroethene	ug/l	0.0088	0.0524	0.0200	118	26. - 162.	5628	00-A88027
1,1,1-Trichloroethane	ug/l	< 0.0010	0.0226	0.0200	113	41. - 138.	5628	00-A88027
1,1,2-Trichloroethane	ug/l	< 0.0010	0.0207	0.0200	104	39. - 136.	5628	00-A88027
Trichloroethene	ug/l	< 0.0010	0.0218	0.0200	109	35. - 146.	5628	00-A88027
Trichlorofluoromethane	ug/l	< 0.0010	0.0216	0.0200	108	21. - 156.	5628	00-A88027

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	ug/l	0.0200	0.0211	106	77 - 123	5628
Chlorobenzene	ug/l	0.0200	0.0230	115	81 - 130	5628
1,2-Dichlorobenzene	ug/l	0.0200	0.0221	110	68 - 152	5628
1,3-Dichlorobenzene	ug/l	0.0200	0.0179	89	73 - 126	5628

oject QC continued . . .

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PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	R.C. Batch
1,4-Dichlorobenzene	ng/l	0.0200	0.0223	112	70 - 131	5628
Ethylbenzene	ng/l	0.0200	0.0217	108	83 - 137	5628
Toluene	ng/l	0.0200	0.0216	108	78 - 123	5628
m,p-Xylenes	ng/l	0.0400	0.0440	110	70 - 130	5628
o-Xylene	ng/l	0.0200	0.0215	108	70 - 130	5628
Bromodichloromethane	ng/l	0.0200	0.0220	110	76 - 124	5628
Bromoform	ng/l	0.0200	0.0187	94	74 - 127	5628
Bromomethane	ng/l	0.0200	0.0201	100	59 - 142	5628
Carbon tetrachloride	ng/l	0.0200	0.0208	104	69 - 132	5628
Chloroethane	ng/l	0.0200	0.0269	134 #	77 - 123	5628
2-Chloroethylvinylether	ng/l	0.0200	0.0156	78	60 - 140	5628
Chloroform	ng/l	0.0200	0.0214	107	75 - 125	5628
Chloromethane	ng/l	0.0200	0.0305	152 #	60 - 141	5628
Dibromochloromethane	ng/l	0.0200	0.0200	100	66 - 133	5628
Ethylene Dibromide	ng/l	0.0200	0.0187	94	70 - 130	5628
Vinyl chloride	ng/l	0.0200	0.0212	106	70 - 130	5628
Dichlorodifluoromethane	ng/l	0.0200	0.0165	82	70 - 150	5628
1,1-Dichloroethane	ng/l	0.0200	0.0236	118 #	84 - 116	5628
1,2-Dichloroethane	ng/l	0.0200	0.0187	94	72 - 129	5628
1,1-Dichloroethene	ng/l	0.0200	0.0212	106	83 - 137	5628
cis-1,2-Dichloroethene	ng/l	0.0200	0.0201	100	70 - 130	5628
trans-1,2-Dichloroethene	ng/l	0.0200	0.0233	116	84 - 136	5628
1,2-Dichloropropane	ng/l	0.0200	0.0190	95	74 - 126	5628
cis-1,3-Dichloropropene	ng/l	0.0200	0.0208	104	85 - 136	5628
trans-1,3-Dichloropropene	ng/l	0.0200	0.0182	91	70 - 130	5628
Methylene chloride	ng/l	0.0200	0.0242	121	78 - 123	5628
1,1,2,2-Tetrachloroethane	ng/l	0.0200	0.0204	102	49 - 151	5628
Tetrachloroethene	ng/l	0.0200	0.0205	102	78 - 150	5628
1,1,1-Trichloroethane	ng/l	0.0200	0.0214	107	71 - 129	5628
1,1,2-Trichloroethane	ng/l	0.0200	0.0217	108	79 - 122	5628
Trichloroethene	ng/l	0.0200	0.0178	89	77 - 123	5628
Trichlorofluoromethane	ng/l	0.0200	0.0195	98	67 - 134	5628

Blank Data

Analyte	Blank Value	Units	R.C. Batch
Benzene	< 0.0010	ng/l	5628
Chlorobenzene	< 0.0010	ng/l	5628
1,2-Dichlorobenzene	< 0.0010	ng/l	5628
1,3-Dichlorobenzene	< 0.0010	ng/l	5628
1,4-Dichlorobenzene	< 0.0010	ng/l	5628

Next QC continued . . .

TestAmerica
INCORPORATED

2960 Foster Creighton Dr
Nashville, TN 37204
615-726-0177
Fax: 615-726-0954

PROJECT QUALITY CONTROL DATA

Blank Data

Analyte	Blank Value	Units	R.C. Batch
Ethylbenzene	< 0.0010	ug/l	5628
Toluene	< 0.0010	ug/l	5628
m,p-Xylenes	< 0.0010	ug/l	5628
o-Xylene	< 0.0010	ug/l	5628
Bromodichloromethane	< 0.0010	ug/l	5628
Bromoform	< 0.0010	ug/l	5628
Bromomethane	< 0.0010	ug/l	5628
Carbon tetrachloride	< 0.0010	ug/l	5628
Chloroethane	< 0.0010	ug/l	5628
2-Chloroethylvinylether	< 0.0010	ug/l	5628
Chloroform	< 0.0010	ug/l	5628
Chloromethane	< 0.0010	ug/l	5628
Dibromochloromethane	< 0.0010	ug/l	5628
Ethylene Dibromide	< 0.0010	ug/l	5628
Vinyl chloride	< 0.0010	ug/l	5628
Dichlorodifluoromethane	< 0.0010	ug/l	5628
1,1-Dichloroethane	< 0.0010	ug/l	5628
1,2-Dichloroethane	< 0.0010	ug/l	5628
1,1-Dichloroethene	< 0.0010	ug/l	5628
cis-1,2-Dichloroethene	< 0.0010	ug/l	5628
trans-1,2-Dichloroethene	< 0.0010	ug/l	5628
1,2-Dichloropropane	< 0.0010	ug/l	5628
cis-1,3-Dichloropropene	< 0.0010	ug/l	5628
trans-1,3-Dichloropropene	< 0.0010	ug/l	5628
Methylene chloride	< 0.0050	ug/l	5628
1,1,2,2-Tetrachloroethane	< 0.0010	ug/l	5628
Tetrachloroethene	< 0.0010	ug/l	5628
1,1,1-Trichloroethane	< 0.0010	ug/l	5628
1,1,2-Trichloroethane	< 0.0010	ug/l	5628
Trichloroethene	< 0.0010	ug/l	5628
Trichlorofluoromethane	< 0.0010	ug/l	5628

End of Report for Project 197250

Chain of Custody Record

TESTAMERICA INC.

☐ Asheville, NC (A) (828) 254-5169 ☐ Bartlett, IL (C) (630) 289-3100 ☐ Cedar Falls, IA (E) (319) 277-2401 ☐ Charlotte, NC (G) (704) 392-1164 ☐ Dayton, OH (I) (937) 294-6856 ☐ Lumberton, NC (K) (910) 738-6190 ☐ Nashville, TN (M) (615) 726-0177 ☐ Pontiac, MI (O) (248) 332-1940 ☐ Rockford, IL (Q) (815) 874-2171
☐ Atlanta, GA (B) (770) 368-0636 ☐ Brighton, CO (D) (303) 659-0497 ☐ Charleston, SC (F) (843) 849-6350 ☐ Columbia, SC (H) (803) 796-8989 ☐ Davenport, IA (J) (319) 323-7944 ☐ Indianapolis, IN (L) (317) 842-4261 ☐ Macon, GA (N) (912) 757-0811 ☐ Orlando, FL (P) (407) 851-2560 ☐ Watertown, WI (R) (920) 261-1660

Client: [redacted] ELS / Quanh	Project No.: 0017-94-017
Report Address: 7750	Invoice Address: Same
Syracuse N.Y	
Attn: E. Rowl	Attn: C. Ross
Phone No.: (315) 458-8033	Sampled By: C. C. Ross
Fax No.: 458-0249	P.O. No.:
	Quote No.
	State Samples Collected NC

REQUESTED PARAMETERS

601 602

00-0482

Is this work being conducted for regulatory compliance monitoring? Yes__ No ✓

Is this work being conducted for regulatory enforcement action? Yes__ No ✓

Which regulations apply: RCRA__ NPDES Wastewater__ UST__ Drinking Water__ Other__ None ✓

TURNAROUND TIME

☑ Standard

☐ Rush (surcharges may apply) Date Needed:

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	601	602								HCl	NaOH	HNO₃	H₂SO₄	Other	None	REMARKS
WW-1 ~~177206~~ EB 7/7/00	6/22	10:40	G	H_2O		X	X								3						177205

(# and type of containers)

QC Deliverables: ☐ None ☐ Level 2 Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Alk Lab Temp: Rec Lab Temp:

COMMENTS:

Relinquished By: [signature]	Date 6/22 Time 12:30	Received By: [signature]	Date 6/22 Time 12:30	LAB USE ONLY
Relinquished By:	Date Time	Received By:	Date Time	
Relinquished By:	Date Time	Received By:	Date Time	Custody Seals: ☐ Yes ☐ No ☐ N/A
Relinquished By:	Date Time	Received By:		

STATE OF NORTH CAROLINA

Department of Environment and Natural Resources
Raleigh Regional Office
3800 Barrett Drive, Suite 101, Raleigh, NC 27609
919/571-4700

File Access Record

SECTION	**UST/GW**
TIME/DATE	Thursday, October 21, 1999
NAME	Chad Grubbs
REPRESENTING	Turner Hart & Hickman, P.C. (Charlotte) (704) 586-0007

Guidelines for Access: The staff of the Raleigh Regional Office is dedicated to making public records in our custody readily available to the public for review and copying. We also have the responsibility to the public to safeguard these records and to carry out our day-to-day program obligations. **Please read carefully the following guidelines before signing the form:**

1. We prefer that you call at least a day in advance to schedule an appointment to review the files. **Appointments will be scheduled between 9:00 a.m. and 3:00 p.m.** Viewing time ends at 5:00 p.m. **Anyone arriving without an appointment may view the files to the extent that time and staff supervision is available.**

2. You must specify files you want to review **by facility name**. The number of files that you may review at one time will be limited to five.

3. You may make copies of a file when the copier is not in use by the staff and if time permits. **Cost per copy is 10 cents for ALL copies if you make more than 25 copies - there is no charge for less than 25 copies; payment may be made by check, money order, or cash at the reception desk. You can also be invoiced.**

4. **FILES MUST BE KEPT IN THE ORDER YOU FOUND THEM.** Files may not be taken from the office. To remove, alter, deface, mutilate, or destroy material in one of these files is a misdemeanor for which you can be fined up to $500.00.

5. In accordance with General Statute 25-3-512, a $20.00 processing fee will be charged and collected for checks on which payment has been refused.

	FACILITY NAME	COUNTY
1.	Nello Teer Durham Quarry — ID #9357	Durham
2.		
3.		
4.		
5.		

Signature and Name of Firm/Business	Date	Time In	Time Out
THHM	10/21/99	820	500

Please attach a business card to this form

STATE OF NORTH CAROLINA

Department of Environment and Natural Resources
Raleigh Regional Office
3800 Barrett Drive, Suite 101, Raleigh, NC 27609
919/571-4700

File Access Record

SECTION	**UST**	
TIME/DATE	Thursday, December 17, 1998	
NAME	Amy Harrison	
REPRESENTING	Environmental Date Resources	(800) 352-0050

Guidelines for Access: The staff of the Raleigh Regional Office is dedicated to making public records in our custody readily available to the public for review and copying. We also have the responsibility to the public to safeguard these records and to carry out our day-to-day program obligations. **Please read carefully the following guidelines before signing the form:**

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5. In accordance with General Statute 25-3-512, a $20.00 processing fee will be charged and collected for checks on which payment has been refused.

	FACILITY NAME	COUNTY
1.	First Baptist Church — ID #9181	Durham
2.	Liggett Meyers - Fernway Street — ID #9289	"
3.	Slaughter Property — ID #9360	"
4.	Triangle Cycles — ID #9078	"
5.	Nello Teer Durham Quarry — ID #9357	"

Amy Harrison 12-17-98

Signature and Name of Firm/Business **Date** **Time In** **Time Out**

Please attach a business card to this form

RECORD OF COMMUNICATION

GW STAFF MEMBER: PHILLIP G. OROZCO

DATE: 6/9/98 TIME: 3:30

PHONE CALL FROM/TO: BILLY OIXON
FRONT ROYAL

PHONE: 469-9795

FAX TO: _____

FAX NO.: _____

INCIDENT

9357

Rank 90R

County DR

Manager PGO

INCIDENT NAME: NELLO TEER - DUCHAM QUARRY

INCIDENT LOCATION: DENFIELD ST. QUARRY

SUMMARY OF COMMUNICATION: FRONT ROYAL HAS JUST COMPLETED THE QUARTERLY SAMPLING EVENT OF ALL MONITOR WELLS.

SYSTEM WAS DOWN IN FEBRUARY BUT IS UP & RUNNING PRESENTLY. EFFLUENT SAMPLES HAVE BEEN TAKEN EACH OF THE PAST 3 MONTHS.

FRONT ROYAL WILL SUBMIT THESE RESULTS ASAP TO THE RRO. A FULL MONITOR REPORT WILL BE SUBMITTED TO THE RRO WITHIN 30 DAYS.

PGO #9357/PGO

State of North Carolina
Department of Environment,
Health and Natural Resources
Raleigh Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Boyce A. Hudson, Regional Manager

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT
July 14, 1995

Mr. Steven Edgerton P.G.
Nello Teer Company
Research Triangle Park, North Carolina 27709

Subject: Well Construction Permit
No. WR 0500030
Durham County

Dear Mr. Edgerton:

In accordance with the application received July 11, 1995 we are forwarding herewith Well Construction Permit No. WR 0500030 dated July 18, 1995 issued for the construction of a recovery well system.

This Permit will be effective from the date of its issuance and shall be subject to the conditions and limitations as specified therein. Please note the addition of stipulation #3 to the permit enclosed.

Sincerely,

Kenneth Schuster, P.E.
Regional Supervisor
Raleigh Regional Office

KS:JWG:md

cc: Groundwater Files
Durham County Health Department
Bob Cheek
Front Royal Environmental Services,

Enclosure

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT, HEALTH AND NATURAL RESOURCES
RALEIGH, NORTH CAROLINA
PERMIT FOR THE CONSTRUCTION OF A WELL

In accordance with the provisions of Article 7, Chapter 87, North Carolina General Statutes, and other applicable Laws, Rules and Regulations.

PERMISSION IS HEREBY GRANTED TO
Nello Teer Company

FOR THE CONSTRUCTION OF A RECOVERY WELL SYSTEM on property owned by Nello Teer Company located at Durham Quarry on Denfield Street, Durham North Carolina, Durham County. This permit is issued in accordance with the application received on July 11, 1995 and in conformity with specifications and supporting data, all of which are filed with the Department of Environment, Health and Natural Resources and are considered a part of this permit.

This Permit is for **well construction only** and does not waive any provision or requirement of any other applicable law or regulation.

Construction of a well under this Permit shall be in compliance with the North Carolina Well Construction Regulations and Standards (15A NCAC 2C .0108), other State and Local laws and regulations pertaining to recovery well construction.

This permit will be effective from the date of its issuance until July 18, 1996, and shall be subject to other specified conditions, limitations, or exceptions as follows:

1. Issuance of this permit does not obligate reimbursement from state trust funds, if these wells are being installed as part of an investigation for contamination from an underground storage tank.

2. Issuance of this permit does not supersede any previous agreement, permit, or requirement.

3. In the event that additional recovery wells are to be constructed on the subject property, this permit shall be valid for said well construction upon receipt of the following documentation:

   a) Proof of notification to the appropriate property owner(s) stating intention to construct additional wells, the number of wells to be constructed, and signatures by the property owner(s) and subject applicant(s) or their agent(s).

   b) Revised site map with information as required by the original well construction application.

   c) Well construction diagram for additional wells with information as required by the original well construction application.

Permit issued this the 18th day of July, 1995

FOR THE NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Kenneth Schuster, P.E., Regional Supervisor
Division of Environmental Management

By Authority of the Environmental Management Commission
Permit No. WR0500030

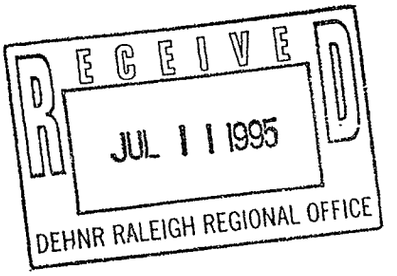
Front Royal

Environmental Services, Inc.

2200 Gateway Blvd. • Suite 205 • Morrisville, NC 27560
P.O. Box 4350 • Cary, NC 27519-4350
(919) 469-9795 • Fax (919) 469-3557

July 7, 1995

Mr. Robert O. Walton, III
Hydrogeologist
North Carolina Department of Environment,
Health and Natural Resources
Division of Environmental Management
Raleigh Regional Office
3800 Barrett Drive, Suite 101
Raleigh, North Carolina 27609



Re: Application to Construct a Recovery Well System
Teer Company - Durham Quarry, Denfield Street, Durham, NC
Front Royal Project No. 0013-94-012

Dear Mr. Walton:

On behalf of the Teer Company (Teer), Front Royal Environmental Services, Inc. (Front Royal) is pleased to submit the enclosed Application to Construct a Recovery Well System. The application is for a total of four (4) recovery wells. Also enclosed are site maps and proposed well schematics. Three of the wells (RW-5, RW-6, and RW-7) are to be constructed as shallow wells (approximately 30' total depth) and are to be located in the vicinity of the former asphalt plant. The fourth well (RW-1) is a deep well (approximately 275' total depth) constructed to replace the abandoned water supply well (W-1). RW-1 will be located near the center of the site, between the former gas station and the former asphalt plant. Front Royal and Teer hope to begin construction of the wells by the end of July so your prompt review will be greatly appreciated. If you have any questions, please call me at (919) 469 - 9795.

Sincerely,

FRONT ROYAL ENVIRONMENTAL SERVICES, INC.

R. Christian Reinhardt, P.G.
Senior Hydrogeologist

cc: Stephen S. Edgerton, P.G., Teer Company

Attachments

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT, HEALTH, & NATURAL RESOURCES

APPLICATION FOR PERMIT TO CONSTRUCT A RECOVERY WELL SYSTEM

Date: May 5, 19 95 County Durham

In accordance with the provisions of Article 7, Chapter 87, General Statutes of North Carolina and regulations pursuant thereto, application is hereby made for a permit to monitoring wells.

1. Name of Applicant: Teer Company (Telephone:)

   Applicant's Mailing Address: Post Office Box 13983 Research Triangle Park, North Carolina 27709

2. Name of Property Owner (if different from applicant)

   Owner's Mailing Address:

3. Contact Person: Mr. Steven Edgerton, P.G. (Telephone: 919-380-2615)

4. Location of Property: Denfield Street, Durham, North Carolina

5. Reason for Recovery Well(s): Groundwater Contamination
   (ex: groundwater contamination, remediation, etc.)

6. Type of facility or site for which a recovery well is needed: UST Facility
   (ex: existing nondischarge facility, waste disposal site, landfill, underground storage tank, etc.)

7. Type of contamination being recovered (if applicable): Petroleum and Chlorinated Hydrocarbons

8. Are any existing monitor wells associated with the proposed recovery well(s)? Yes If yes, how many? 25

   Monitoring Well Construction Permit No.

9. Distance to a known waste or pollution source: 0 feet

10. Are any water supply wells located less than 500 feet from the proposed recovery wells? No

    If yes, give distance: feet

11. Well Driller: Front Royal Environmental Services, Inc.

12. Registration #: 1597

13. Driller's Address: Post Office Box 4350, Cary, North Carolina 27519

RECOVERY WELL INFORMATION

1. Total Number of Wells to be constructed: 4

   No. completed in bedrock? 1

   No. completed in unconsolidated sediments? 3

   Completed in unconsolidated material? See Attached

2. Estimated depth of well(s): See Attached feet

2A. Estimated screen interval (Feet below land surface) to See Attached

3. Will gravel or sand packs be used?: Yes ; If yes, for what interval: See Attached ft. to ft.

FOR OFFICE USE ONLY

___ PERMITTED ACTIVITY
___ U.S.T. LEAK DETECTION
✓ GROUNDWATER QUALITY STANDARDS
___ VIOLATIONS SUSPECTED FROM UNPERMITTED ACTIVITIES
___ NOTICE OF NON-COMPLIANCE AT UNPERMITTED FACILITIES

PERMIT NO. WR0500030 ISSUED July 14th 1995

INCIDENT # 9357 Rdu

(Continued on reverse)

4. Type of casing used: SCH 80 PVC
(ex: PVC, stainless steel, galvanized steel, etc.)

5. Diameter of casing: 6" inches

6. Thickness of casing: _____ inches

7. How will the well(s) be secured? Water Tight Locking Vault

8. Estimated pumping rate: Total = 30 GPM

9. Estimated beginning construction date: July 24, 1995

10. Estimated completion date: July 28, 1995

ADDITIONAL INFORMATION [REQUIRED INFORMATION]
(APPLICATION CANNOT BE PROCESSED WITHOUT THIS INFORMATION)

1. ATTACH A SITE MAP SHOWING THE LOCATIONS OF THE FOLLOWING:

   1 - PROPOSED RECOVERY WELL(S)

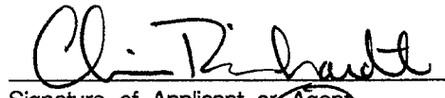
   2 - ALL EXISTING MONITORING AND RECOVERY WELLS OR TEST BORINGS WITH THE PROPERTY BOUNDARY

   3 - ALL WATER SUPPLY WELLS WITHIN 500 FEET OF THE WASTE SOURCES

   4 - AT LEAST TWO REFERENCE POINTS (NUMBERED ROADS, INTERSECTIONS, STREAMS, ETC.)

2. PROVIDE A WELL CONSTRUCTION DIAGRAM OF EACH WELL SHOWING DIAMETER, ESTIMATED DEPTH, SCREEN INTERVALS, SAND/GRAVEL PACKS, TYPE OF CASING MATERIAL, CASING WALL THICKNESS, WELL HEAD COMPLETION DETAILS, ETC.)

The Applicant hereby agrees the proposed well(s) will be constructed in accordance with approved specifications and conditions of the Well Construction Permit as regulated under the Well Construction Standards (Title 15A North Carolina Administrative Code, Subchapter 2C) and accepts full responsibility for compliance with these rules.

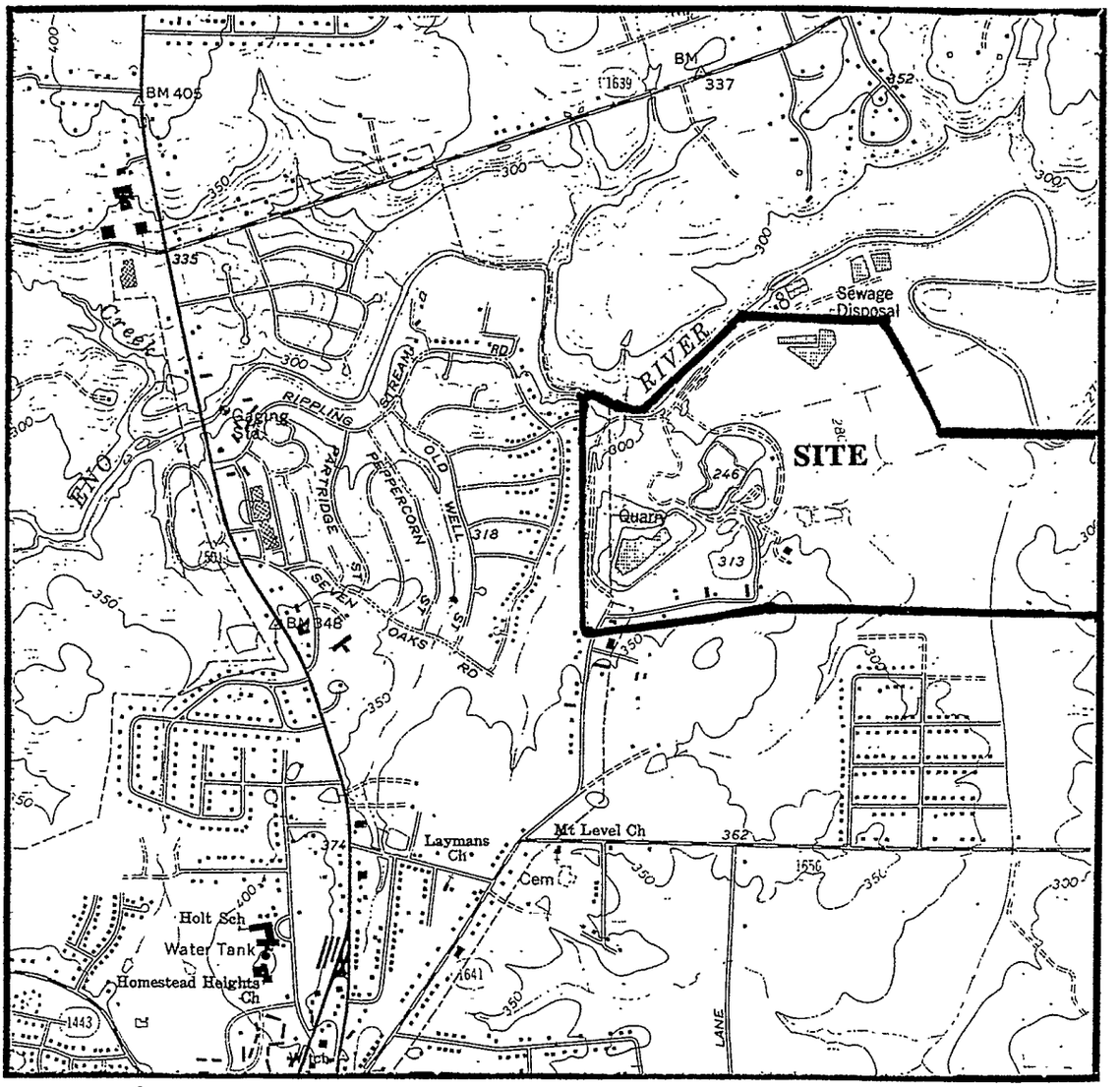


Signature of Applicant or (Agent)

SENIOR HYDROGEOLOGIST - FRONT ROYAL ENVIRONMENTAL SERVICES
Title (if applicable)

If the property is owned by someone other than the applicant, the property owner hereby consents to allow the applicant to construct recovery wells as outlined in this application and that it shall be the responsibility of the applicant to ensure that these recovery wells conform to the Well Construction Standards (Title 15A North Carolina Administrative Code, Subchapter 2C).

_____
Signature of Property Owner (if different from applicant)



Northwest Durham 7.5 min. Quad
USGS, 1987 (Revised)

Nello Teer Co. **Durham Quarry** **Location Map**	FRONT ROYAL *ENVIRONMENTAL SERVICES, INC.*	FIGURE 1 SCALE: PROJ. # **0013-94-012**

N

QUARRY
PIT

MW-12

APPROXIMATE
LOCATION OF FORMER
ASPHALT PLANT

MW-18

RW-6

MW-26

RW-5

MW-25

MW-13

MW-14S

MW-14I

ELECTRICAL SHOP

MW-11

RW-

MW-17

MW-27

MW-1

MW-7

WASTE OIL

TRUCK SHOP

RW-1

APPROXIMATE
LOCATION OF
FORMER TANKS

MW-19

MW-20D

MW-15S

MW-21

MW-20S

RW-4

MW-15I

RW-3

MW-24

MW-3

OLD SERVICE STATION

MW-23

SCALE HOUSE

RW-2

MW-16S

MW-9

MW-16I

MW-22

OFFICE

LEGEND

MW-20 ◎ – MONITORING WELL LOCATION

RW-1 ⊕ – RECOVERY WELL LOCATION

FRONT ROYAL

ENVIRONMENTAL SERVICES, INC.

MORRISVILLE, NORTH CAROLINA

Engineer's Seal

NELLO L. TEER
DURHAM QUARRY

Revisions

DRAWING

Project No.
0013-94-012

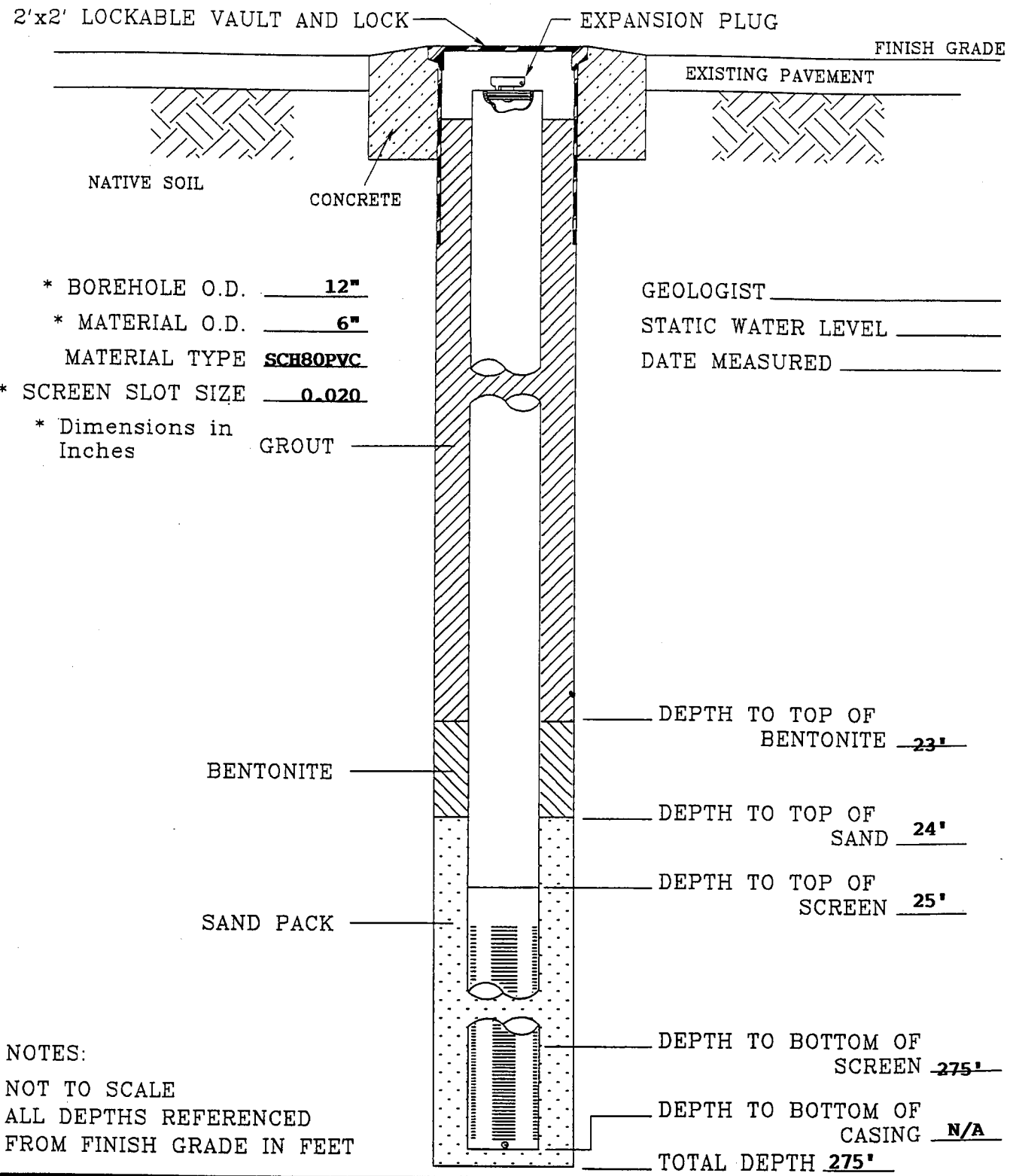
Checked by

Scale 1" = 100'

Date Drawn

RECOVERY WELL RW-1

FLUSH MOUNT
RECOVERY WELL SCHEMATIC



* BOREHOLE O.D. 12"

* MATERIAL O.D. 6"

MATERIAL TYPE SCH80PVC

* SCREEN SLOT SIZE 0.020

* Dimensions in Inches

GEOLOGIST _____

STATIC WATER LEVEL _____

DATE MEASURED _____

DEPTH TO TOP OF BENTONITE ~~23'~~

DEPTH TO TOP OF SAND 24'

DEPTH TO TOP OF SCREEN 25'

DEPTH TO BOTTOM OF SCREEN ~~275'~~

DEPTH TO BOTTOM OF CASING N/A

TOTAL DEPTH 275'

NOTES:

NOT TO SCALE
ALL DEPTHS REFERENCED FROM FINISH GRADE IN FEET

RECOVERY WELL 1

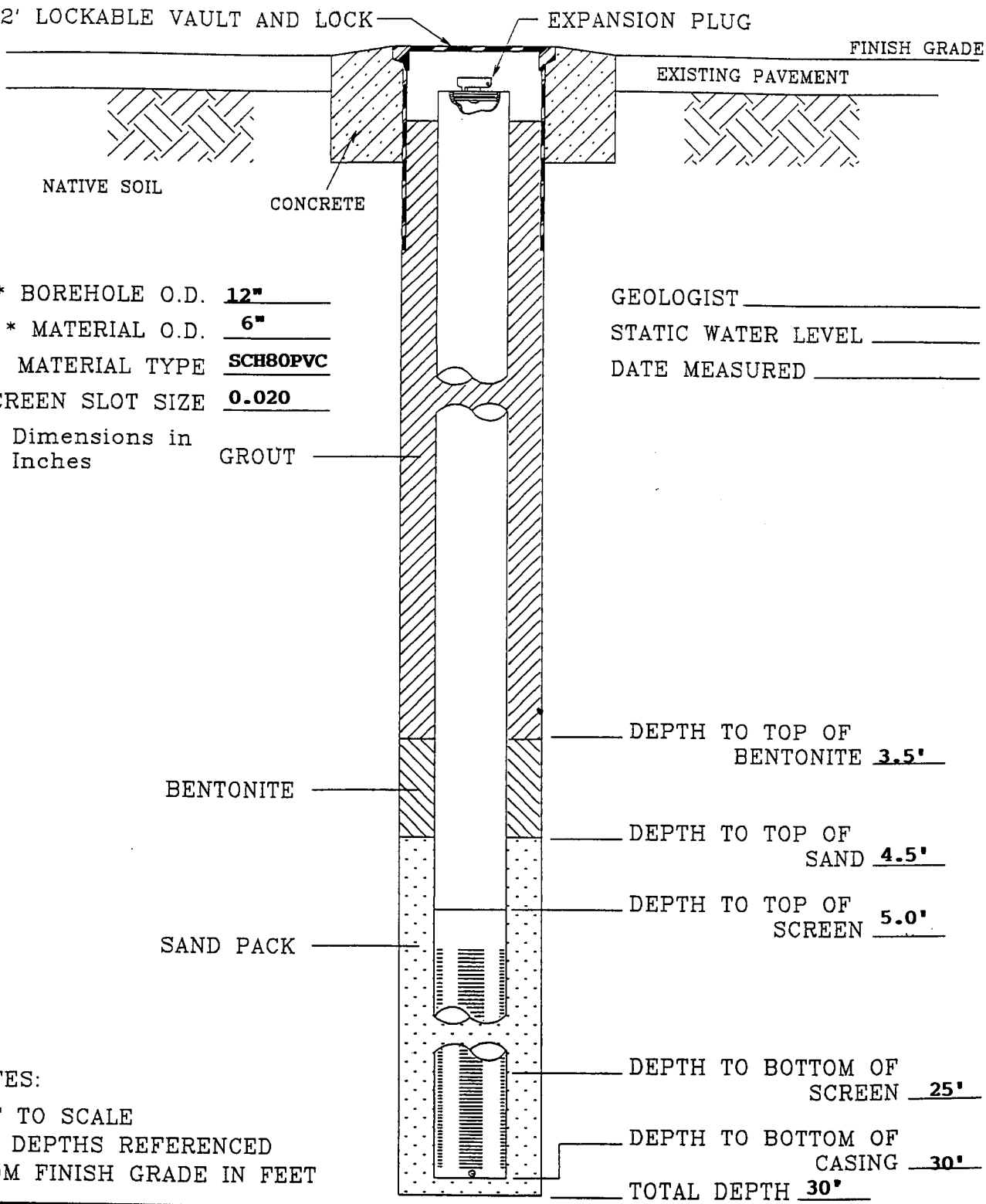
DATE DRILLED TBA

DRILLING METHOD Air Rotary

FRONT ROYAL
ENVIRONMENTAL SERVICES, INC.

Nello Teer Co.
Durham Quarry
PROJ. #0013-94-012

FLUSH MOUNT
RECOVERY WELL SCHEMATIC



* BOREHOLE O.D. 12"
* MATERIAL O.D. 6"
MATERIAL TYPE SCH80PVC
* SCREEN SLOT SIZE 0.020
* Dimensions in Inches

GEOLOGIST _____
STATIC WATER LEVEL _____
DATE MEASURED _____

DEPTH TO TOP OF BENTONITE 3.5'
DEPTH TO TOP OF SAND 4.5'
DEPTH TO TOP OF SCREEN 5.0'
DEPTH TO BOTTOM OF SCREEN 25'
DEPTH TO BOTTOM OF CASING 30'
TOTAL DEPTH 30'

NOTES:
NOT TO SCALE
ALL DEPTHS REFERENCED FROM FINISH GRADE IN FEET

RECOVERY WELL 5,6,7
DATE DRILLED TBA
DRILLING METHOD Air Rotary

FRONT ROYAL
ENVIRONMENTAL SERVICES, INC.

Nello Teer Co.
Durham Quarry
PROJ. # 0013-94-012

Front Royal Environmental Services, Inc.

2200 Gateway Blvd., Suite 205, Morrisville, NC 27560; P.O. Box 4350, Cary, NC 27519-4350
Phone (919) 469-9795, Fax (919) 469-3557

Letter of Transmittal

To: North Carolina Division of Env. Mgmt.
Raleigh Regional Office
3800 Barrett Dr., Suite 101, Raleigh, NC

Date: 10/03/95

Re: Teer Durham Quarry
Ground Water Incident No. 9537

Attention: Mr. Robert Walton

No. of Copies	Description
1	Signed certified mail cards from notification letters

Purpose of Transmittal: [ ] For Comment [ ] For Review [ ] _____
[ ] For Approval [X] For Your Files [ ] _____

Comments: Please find attached a copy of the signed certified mail cards from the notification letters that were included in the Corrective Action Plan for the Teer Durham Quarry located in Durham, North Carolina. If you have any questions regarding this matter please call me at (919) 469-9795.

Please contact me if you have any questions. Sincerely,

Bryan Gee
Front Royal Environmental Services, Inc.

cc: _____ [ ] with [ ] without enclosure

_____ [ ] with [ ] without enclosure

_____ [ ] with [ ] without enclosure

0013-94-012

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. George Williams
Durham Co. Manager
Office of Co. Mgr.
200 E. Main St., 2nd Floor
Durham, NC 27701

4a. Article Number
Z 784 332 991

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
9-28-95

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service

0013-94-012

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Dr. John Fletcher, Director
Durham Co. Health Dept.
414 E. Main St.
Durham, NC 27701

4a. Article Number
Z 784 332 992

4b. Service Type
☐ Registered ☐ Insured
☑ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
9-29-95

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
Barbara Hines

PS Form 3811, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service

UNITED STATES POSTAL SERVICE

Official Business

RALEIGH, NC 276
PM
28 JAN
1993

RESEARCH TRIANGLE AREA
RALEIGH

PENALTY FOR PRIVATE USE TO AVOID PAYMENT OF POSTAGE, $300

U.S. MAIL

RECEIVED
FEB 03 1993
DEHNR-RAL RO

Print your name, address and ZIP Code here

Environment, Health & Natural Resources
Raleigh Regional Office
3800 Barrett Drive
Raleigh NC 27609

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
MR STEVEN EDGERTON
NELLO L TEER CO
P O BOX 1131
DURHAM NC 27702
NOV DURHAM COUNTY 1-25-93
KS:BL

396

4a. Article Number
P 709 481 232

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
JAN 28 1993

5. Signature (Addressee)

6. Signature (Agent)
Robert Kuy

8. Addressee's Address (Only if requested and fee is paid)

PS Form **3811**, December 1991 ☆ U.S.G.P.O.: 1992-307-530 **DOMESTIC RETURN RECEIPT**

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

State of North Carolina
Department of Environment, Health, and Natural Resources
512 North Salisbury Street • Raleigh, North Carolina 27604

James B. Hunt, Jr., Governor

Jonathan B. Howes, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT
January 25, 1993

CERTIFIED MAIL
RETURN RECEIPT REQUIRED

Mr. Steven Edgerton
Nello L. Teer Company
P.O. Box 1131
Durham, North Carolina 27702

Re: Notice of Violation
North Carolina General Statutes
G.S. 143-215.1
Nello L. Teer Company, Durham Quarry
Durham, Durham County

Dear Mr. Edgerton:

Chapter 143, Article 21A, of the North Carolina General Statutes, authorizes and directs the Environmental Management Commission (Commission) of the Department of Environment, Health and Natural Resources to protect and preserve the water and air resources of the State. The Division of Environmental Management (Division) has the delegated authority to enforce adopted pollution control rules and regulations.

The Groundwater Quality Standards were established in accordance with the provisions set forth in G.S. 143-214.1, which directs the Commission to develop and adopt water quality standards applicable to the waters of the State.

A contravention of the Groundwater Quality Standards constitutes a violation of G.S. 143-215.1 which prohibits, whether directly or indirectly, the discharge of any waste to the waters of the State in violation of the water quality Standards unless allowed as a condition of a permit or other appropriate instrument issued by the Commission.

On January 22, 1993, the Division received confirmation of a contravention of Groundwater Quality Standards as established

in the North Carolina Administrative Code, Title 15, Subchapter 2L .0202 (15 NCAC 2L .0202). This contravention of Groundwater Quality Standards includes benzene concentrations as high as 75 parts per billion. The violation occurred as a result of activities at the Nello L. Teer Company Durham Quarry.

As a result of these findings, Nello L. Teer Company is requested to submit by July 29, 1993 a written response to this Notice describing a plan for the restoration of the groundwater in accordance with 15A NCAC 2L .0106. This stipulates that any person conducting or controlling an activity which contributes to an increase in the concentration of the standard shall assess the cause, significance, and extent of the violation, submit a plan for eliminating the source of the contamination, and implement the plan.

The goal of the actions taken to restore groundwater quality shall be restoration to the level of the standards, or as close thereto as is economically and technologically feasible.

Failure to respond within the time specified may result in issuance of a proposed civil penalty assessment by the Director under authority of G.S. 143-215.6A, which provides that a civil penalty of not more than $10,000 may be assessed against any person who violates any classification, standard, limitation, or management practice established pursuant to G.S. 143-214.1 or G.S. 143-215. If any action or failure to act is continuous, each day may be considered a separate violation.

Should you have any questions, please contact Mr. Barry Love of the Raleigh Regional Office at (919) 571-4700.

Sincerely,

Kenneth Schuster, P.E.
Acting Regional Supervisor
Raleigh Regional Office

KS:BL:bl

cc: Burrie Boshoff

NELLODR.NOV

GEONETICS CORPORATION
5120 South-Lakeland Drive
Lakeland, Florida 33813
Phone: (813) 646-2644
FAX: (813) 646-6375

May 16, 1994

Mr. Robert O. Walton, III
Hydrological Technician
Groundwater Section
NCDEM, Raleigh Regional Office
3800 Barrett Drive
Raleigh, North Carolina 27609

well D to Teer RW

RE: Repairs and protection of monitoring wells, Teer's Durham Quarry; Incident # 9357

Dear Robert:

I was advised of your visit to the above-referenced site last week, and was pleased that Mr. Randy Villa was available to show you around. Please be assured that we have begun the repairs and installation of the locking well caps on the older monitoring and production wells.

Again, thank you for your continuing patience with us in getting the soil and groundwater remediation permit applications modified and submitted. We hope that these will be finished within two weeks. The laboratory has experienced some equipment breakdowns, and we are still awaiting the final results of some soil analyses, and the three new monitoring well groundwater analyses.

Sincerely yours,

Arthur W. Hayes, Ph.D, P.G.
President

xc: Steve Edgerton, Teer
Don Smith, Geonetics

GEONETICS CORPORATION
Route 10, Box 2620; Payne Road
Lexington, North Carolina 27292
Phone: (919) 764-9225

January 18, 19943

Mr. Robert Walton, Hydrogeological Technician
Groundwater Section
Division of Environmental Management
DEHNR
P.O. Box 29535
Raleigh, NC 27626-0535

Incident Number 9357

Dear Robert:

As we discussed Tuesday, we received your December 29, 1993 letter requesting a February 1, 1994 response on Monday, January 17, 1994. Thank you again for the verbal extension. We should have the information requested by February 15, 1994.

If you have any questions, please call me in the Winston-Salem office (919) 764-9225.

Sincerely,

Donald R. Smith, P.G.
Division Manager

GEONETICS CORPORATION
5120 South-Lakeland Drive
Lakeland, Florida 33813
Phone: (813) 646-2644
FAX: (813) 646-6375

November 5, 1993

Mr. Robert Walton, Hydrogeologist
Groundwater Section
Raleigh Regional Office
N.C. Division of Environmental Management
3800 Barrett Drive
Raleigh, North Carolina 27609

FAX # (919) 571-4718

RE: Teer Company, Durham Quarry CAP, Incident # 9357

Dear Robert:

Confirming our telephone conversation on Wednesday, November 3rd; we appreciate your approval of a four-day extension to December 3, 1993, to submit the Corrective Action Plan for the above referenced site. These extra few days will allow us ample time to get past the Thanksgiving holiday.

Mike Thibodeau, my partner and Vice President will be in your office on Tuesday, November 9, to explore some possible methods for that cleanup. He and Don Smith could also answer some questions you might have regarding the recently-submitted CSA. If possible, it would be good if Jay Zimmerman had some time to stop by also. Mike or Don will call before coming over.

I will be back in country on Monday, November 15. Again, many thanks for all of your assistance with this project.

Very truly yours,

Arthur W. Hayes, Ph.D., P.G.
President

GEONETICS CORPORATION
5120 South-Lakeland Drive
Lakeland, Florida 33813
Phone: (813) 646-2644
FAX: (813) 646-6375

November 5, 1993

Mr. Robert Walton, Hydrogeologist
Groundwater Section
Raleigh Regional Office
N.C. Division of Environmental Management
3800 Barrett Drive
Raleigh, North Carolina 27609

FAX # (919) 571-4718

RE: Teer Company, Durham Quarry CAP, Incident # 9357

Dear Robert:

Confirming our telephone conversation on Wednesday, November 3rd; we appreciate your approval of a four-day extension to December 3, 1993, to submit the Corrective Action Plan for the above referenced site. These extra few days will allow us ample time to get past the Thanksgiving holiday.

Mike Thibodeau, my partner and Vice President will be in your office on Tuesday, November 9, to explore some possible methods for that cleanup. He and Don Smith could also answer some questions you might have regarding the recently-submitted CSA. If possible, it would be good if Jay Zimmerman had some time to stop by also. Mike or Don will call before coming over.

I will be back in country on Monday, November 15. Again, many thanks for all of your assistance with this project.

Very truly yours,

Arthur W. Hayes, Ph.D., P.G.
President

State of North Carolina
Department of Environment,
Health and Natural Resources
Raleigh Regional Office

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
Boyce A. Hudson, Regional Manager

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT
July 15, 1993

Mr. Steven Edgerton
Nello L. Teer Company
P. O. Box 1131
Durham, NC 27702

Re: 90 Day extension for completion of CSA
Nello L. Teer Durham Quarry
Durham, Durham County
Incident #9357

Dear Mr. Edgerton

Per the request of your environmental consultant, Geonetics Corporation, a 90 day extension for the submittal of the Comprehensive Site Assessment (CSA) is granted. A complete CSA is due to this office by October 29, 1993. To be considered a complete CSA, the report must fully characterize the cause, significance and extent of groundwater and soil contamination.

Per 15A NCAC 2L .0106 a complete Corrective Action Plan (CAP), including detailed engineering designs, must be submitted to this office by November 30, 1993. The CAP must fully address all soil and groundwater contamination.

Failure to submit a complete CSA and CAP within the time specified may result in issuance of a proposed civil penalty assessment by the Director under authority of G.S. 143-215.6A, which provides that a civil penalty of not more than $10,000 may be assessed against any person who violates any classification, standard, limitation, or management practice established pursuant to G.S. 143-215.1 or G.S. 143-215. If any action or failure to act is continuous, each day may be considered a separate violation.

A copy of our guidelines for both a CSA and a CAP are attached for your reference. If you have any questions on this project please feel free to contact Robert Walton or Jay Zimmerman at (919) 571-4700.

Sincerely,

Kenneth Schuster, P.E.
Regional Supervisor
Raleigh Regional Office

KS:JZ:RW:rw

cc: File
D. R. Smith - Geonetics Corporation

Attachments

9357CSA.ext

GEONETICS CORPORATION
Route 10, Box 2620; Payne Road
Lexington, North Carolina 27292
Phone: (919) 764-9225

June 10, 1993

Mr. Barry Love, Environmental Specialist
Division of Environmental Management
N.C. Dept. of Environment, Health & Natural Resources
3800 Barrett Drive
Raleigh, North Carolina 27609

RECEIVED
JUN 14 1993
DEHNR-RAL RO

RE: Nello L. Teer Co. Durham Quarry CSA

Dear Mr. Love:

We sincerely appreciated the opportunity to meet with you last Wednesday, June 2nd, to discuss the progress of the contamination assessment at Nello Teer's Durham Quarry. Also present at this meeting were Steve Edgerton, P.G. and Ward Nye of N.L. Teer Co., and Don Smith, P.G., Geonetics' Project Manager.

We summarized the exploration program for contaminated soil; the OVA field screening method; identification of the contaminated areas; plans for laboratory soil analyses; new analytical results from existing monitoring wells; plans for new monitoring wells; and various working copies of interpretive maps and cross-sections. In addition, we showed you the final copies of all field data forms for drilling and analyses, to date, which will be incorporated in the CSA Appendix.

We also appreciated your tentative approval of a 90-day extension for us to complete the study and remediation planning, due to the complexity and larger-than-expected areas of study. As you had suggested, we are forwarding a written request for extension until October 29, 1993, for your files. Kindly have Mr. Zimmerman initial his approval on a copy of this letter and return it to us. Again, many thanks for your cooperation.

Very truly yours,

Arthur W. Hayes, Ph.D., P.G.
President

NELLO L. TEER COMPANY
R-RAL RD P.O. BOX 1131 DURHAM, N.C. 27702 U.S.A.
TEL: (919) 682-6191 • 1-800-999-6356 • FAX: (919) 682-7553

January 21, 1993

Mr. Barry Love
NC Dept. of Environment, Health
and Natural Resources
Division of Environmental Management
Ground Water Section
3800 Barrett Drive
Raleigh, NC 27609

Re: Durham Quarry Ground Water

Dear Mr. Love:

Per our conversation of this date, please find results of ground water testing conducted by our parent corporation. We are presently evaluating proposals from consultants to aid in cleanup operations to be performed at the site.

Should you or any of your staff have any questions, please do not hesitate to call me at 1-800-999-6356.

Sincerely,

NELLO L. TEER COMPANY

Steven S. Edgerton, P.G.

SSE/dg

Enclosure

cc: File

TABLE 7
SUMMARY OF WATER ANALYSES

PARAMETER	UNITS	SOURCE / SAMPLE DATE	W-1 4-26-89	W-1 6-8-89	W-2 6-8-89	W-3 6-8-89	W-5 6-8-89	PIT 2 6-8-89
FIELD ANALYSES								
TEMPERATURE	DEGREES C		17.0	17.5	17.0	17.0	21.5	25.0
pH	STD. UNITS		7.0	6.4	6.8	6.6	6.5	8.1
SPEC CONDUCTANCE	uMHOS/cm		720	600	400	300	400	300
LABORATORY ANALYSES								
TDS	mg/l		385	NR	328	240	460	245
FLUORIDE	mg/l		0.35	NR (1)	0.14	0.12	0.12	0.26
NITRATE	mg/l as N		<0.04 (2)	NR	0.23	0.20	<0.04	2.6
CHLORIDE	mg/l		23	NR	12	8	21	25
SULFATE	mg/l		5.8	NR	2	2	9	48
BICARBONATE	mg/l CaCO3		276	NR	316	213	416	134
CARBONATE	mg/l CaCO3		<1	NR	<5	<5	<5	<5
SILICA	mg/l		24	NR	25	30	24	NR
CALCIUM	mg/l		75.8	NR	56	46	81	18 (3)
IRON	mg/l		0.58	NR	<0.1	<0.1	<0.1	0.78 (3)
POTASSIUM	mg/l		1.22	NR	2.2	1.1	2.5	4.7 (3)
MAGNESIUM	mg/l		19.2	NR	32	20	48	5.2 (3)
SODIUM	mg/l		28	NR	13	8.2	21	56 (3)
TOTAL PHC	mg/l		<1	NR	<1	<1	<1	<1
BENZENE	ug/l		48	75	<5	<5	<5	<5
TOLUENE	ug/l		<5	7	<5	<5	<5	<5
ETHYLBENZENE	ug/l		7	11	<5	<5	<5	<5
TETRACHLOROETHENE	ug/l		<5	<5	<5	<5	300	<5
TRICHLOROETHENE	ug/l		10	<5	<5	<5	<5	<5

Parts Cleaned

(1) NR INDICATES ANALYSIS NOT RUN
(2) < INDICATES LESS THAN METHOD DETECTION LIMIT
(3) ANALYSIS PERFORMED AS TOTAL METALS

GEONETICS CORPORATION

Route 10, Box 2620; Payne Road Lexington, North Carolina 27292

Phone (919) 764-9225 Fax (919) 764-2750

D.R. (Don) Smith, P.G.
Division Manager

Geohydrology • Environmental • Geotechnique • Mineral Resources

GEONETICS CORPORATION

5120 South-Lakeland Drive Lakeland, Florida 33813

Phone (813) 646-2644 Fax (813) 646-6375

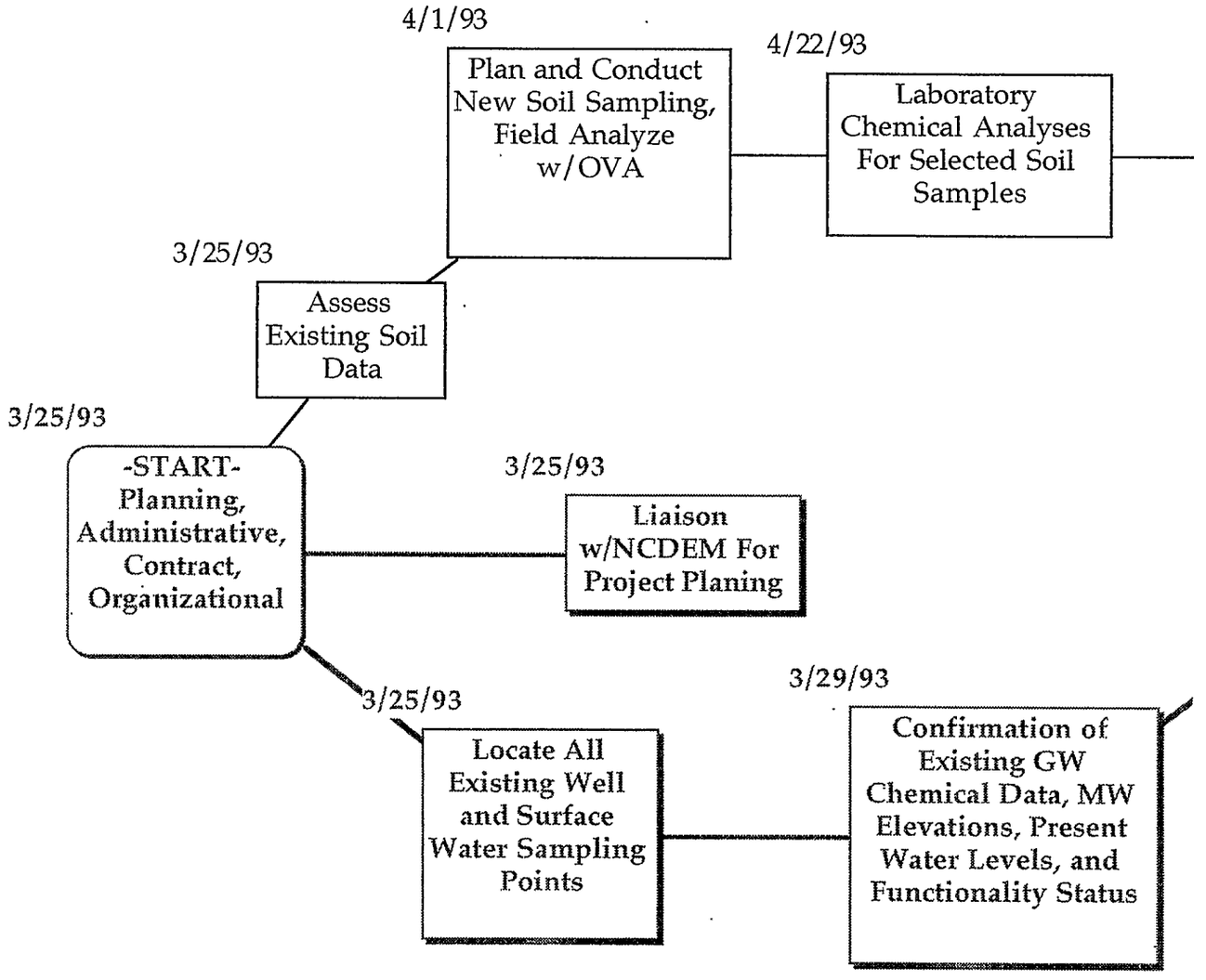
A.W. (Art) Hayes, Ph.D., P.G.
President

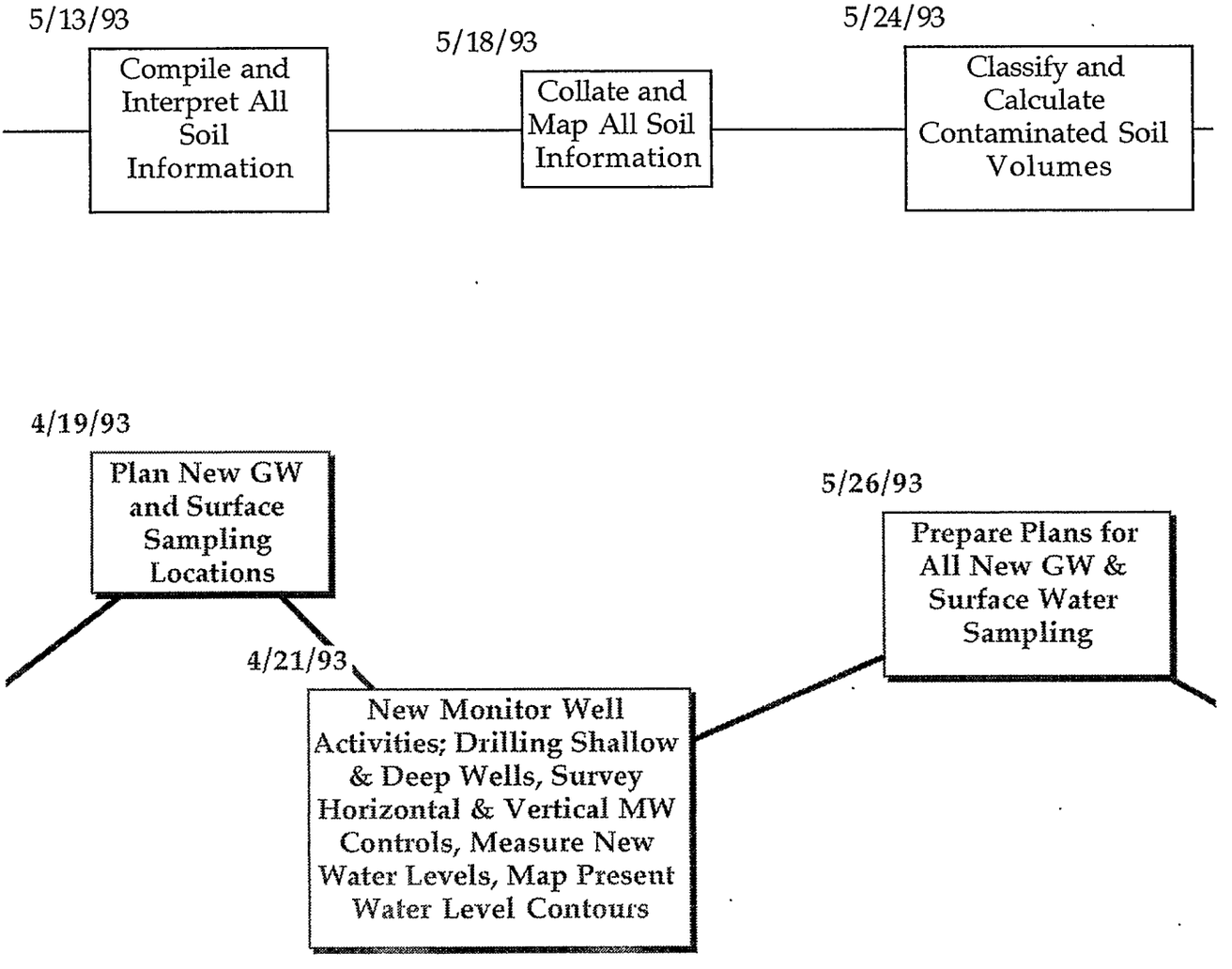
Geohydrology • Environmental • Geotechnique • Mineral Resources

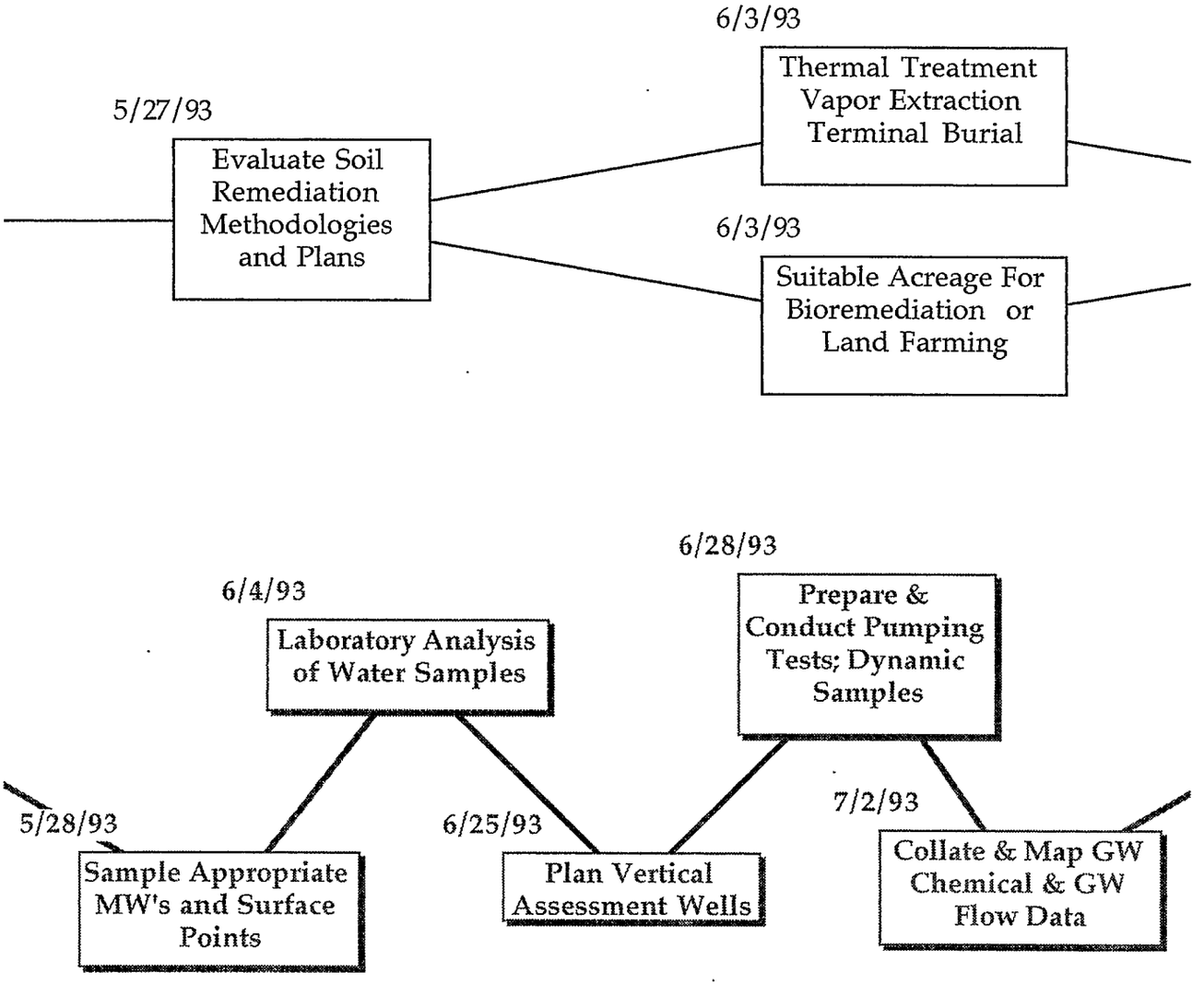
6-2-93

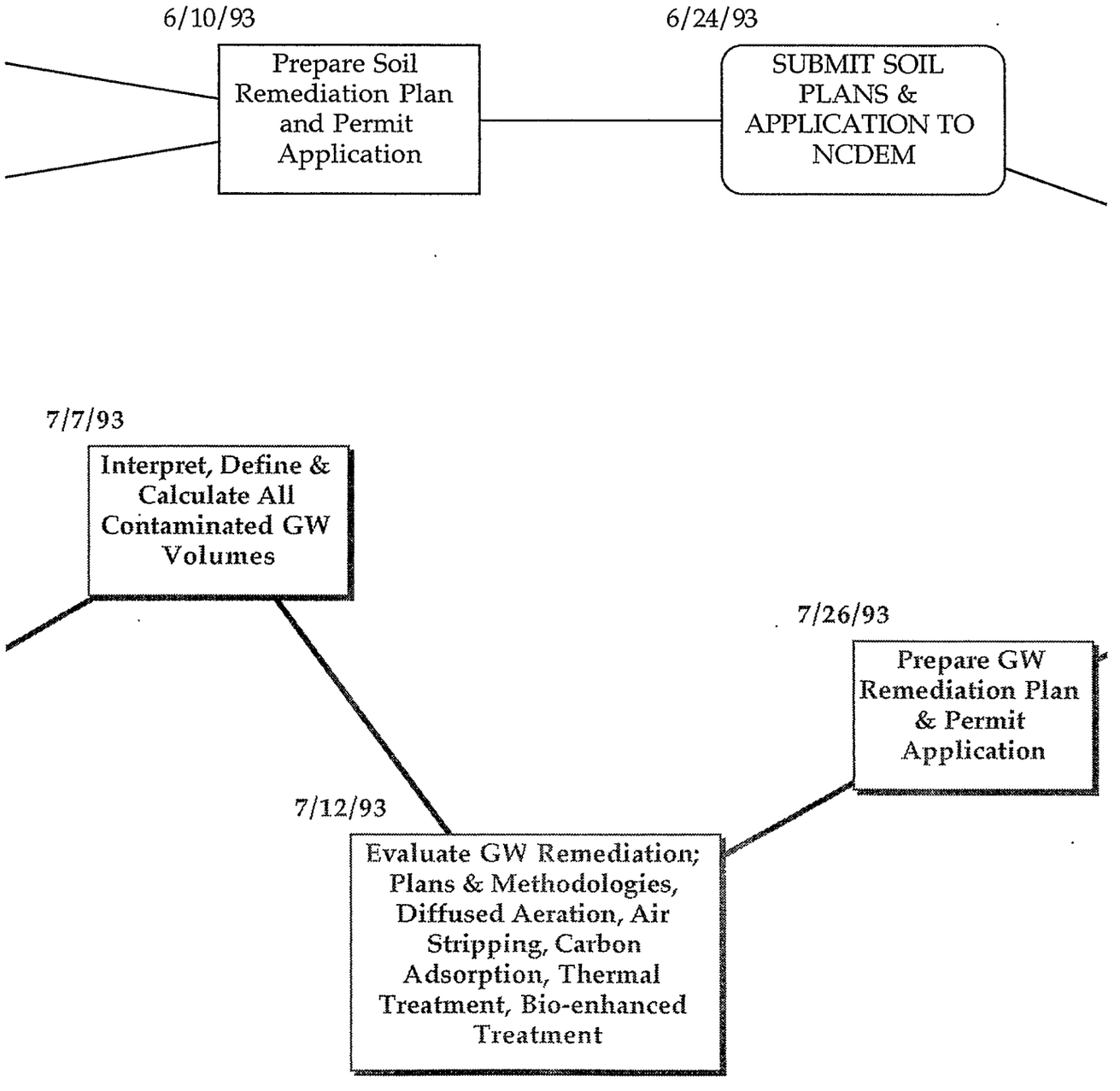
Meeting with Steven Edgerton and Geonetics

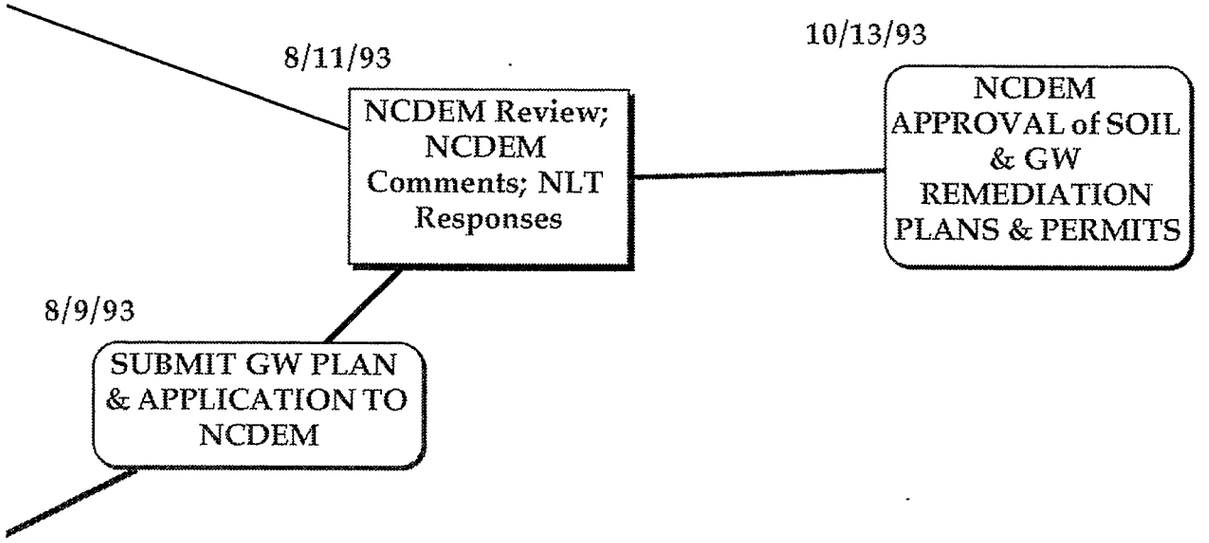
- Screening soils to get idea of where to install wells
- 625 analysis
- testing for chlorinated solvents
- they want 90 day extension - they are going to send a letter


4/1/93
Plan and Conduct New Soil Sampling, Field Analyze w/OVA
4/22/93
Laboratory Chemical Analyses For Selected Soil Samples
3/25/93
Assess Existing Soil Data
3/25/93
-START- Planning, Administrative, Contract, Organizational
3/25/93
Liaison w/NCDEM For Project Planing
3/25/93
Locate All Existing Well and Surface Water Sampling Points
3/29/93
Confirmation of Existing GW Chemical Data, MW Elevations, Present Water Levels, and Functionality Status


5/13/93
Compile and Interpret All Soil Information
5/18/93
Collate and Map All Soil Information
5/24/93
Classify and Calculate Contaminated Soil Volumes
4/19/93
Plan New GW and Surface Sampling Locations
4/21/93
New Monitor Well Activities; Drilling Shallow & Deep Wells, Survey Horizontal & Vertical MW Controls, Measure New Water Levels, Map Present Water Level Contours
5/26/93
Prepare Plans for All New GW & Surface Water Sampling


6/3/93
Thermal Treatment Vapor Extraction Terminal Burial
5/27/93
Evaluate Soil Remediation Methodologies and Plans
6/3/93
Suitable Acreage For Bioremediation or Land Farming
6/28/93
6/4/93
Laboratory Analysis of Water Samples
Prepare & Conduct Pumping Tests; Dynamic Samples
5/28/93
6/25/93
7/2/93
Sample Appropriate MW's and Surface Points
Plan Vertical Assessment Wells
Collate & Map GW Chemical & GW Flow Data


6/10/93
Prepare Soil Remediation Plan and Permit Application
6/24/93
SUBMIT SOIL PLANS & APPLICATION TO NCDEM
7/7/93
Interpret, Define & Calculate All Contaminated GW Volumes
7/26/93
Prepare GW Remediation Plan & Permit Application
7/12/93
Evaluate GW Remediation; Plans & Methodologies, Diffused Aeration, Air Stripping, Carbon Adsorption, Thermal Treatment, Bio-enhanced Treatment


8/9/93
SUBMIT GW PLAN & APPLICATION TO NCDEM
8/11/93
NCDEM Review; NCDEM Comments; NLT Responses
10/13/93
NCDEM APPROVAL of SOIL & GW REMEDIATION PLANS & PERMITS

PUBLIC RECORD DISCLOSURE

THE NORTH CAROLINA PUBLIC RECORDS ACT PROVIDES THAT PUBLIC RECORDS MAY BE REVIEWED UNDER REASONABLE CONDITIONS EXCEPT THOSE RECORDS WHICH MAY EXIST PURSUANT TO THE PRIVACY ACT OR OTHER SPECIFIC EXCLUSIONS COVERED BY THE PUBLIC RECORDS ACT.

PERSONS WISHING TO EXAMINE PUBLIC RECORDS MAINTAINED AT THIS OFFICE MAY DO SO DURING THE PERIOD OF 9:00 A.M. UNTIL 3:00 P.M. ON NORMAL WORK DAYS.

REVIEWERS MAY NOT REMOVE, ALTER, OR MAKE MARKS ON ANY DOCUMENTS. ONE (1) GENERIC FILE MAY BE REVIEWED AT A TIME. IF COPIES ARE NEEDED, THE CUSTODIAN WILL INSTRUCT YOU IN THE USE OF THE COPY MACHINE. A CHARGE OF 10 CENTS PER PAGE IS TO BE PAID TO THE RECEPTIONIST.

DISCLOSURE INFORMATION

REVIEWER'S NAME: Kurt Steeb DATE: 3/3/93

FILE TITLE: Nello L. Teer (Durham Quarry)

ORGANIZATION: Hillmann Environmental PHONE: 703-845-8227

MAILING ADDRESS: 5205 Leesburg Pike Suite 1213 Falls Church, VA

SIGNATURE: Kurt Steeb

IMPORTANT

To N B Rom

Date _____ Time _____

WHILE YOU WERE OUT

M Stan Egerton

of _____

Phone 1800 959-6356

AREA CODE NUMBER EXTENSION

TELEPHONED		PLEASE CALL	X
CALLED TO SEE YOU		WILL CALL AGAIN	
WANTS TO SEE YOU		URGENT	
RETURNED YOUR CALL			

Message Call Yours.

Signed

N.C. Dept. of Environment, Health, and Natural Resources

Printed on Recycled Paper

1-21-93 Called Steve Edgerton

He said he would send copies of lab analysis of well & soil (trichloro.)

He said attornios were supposed to have already sent analysis but R.R.O. never received

Potential new incident,
contact NelloTeer to get
data they refer to. Nib
may also have UST closure
report. PIRF, rank, etc

Jay

10-10-92

10-29 - Meeting w.
Steven Edgerton 9:00

NELLO L. TEER COMPANY
A Member of THE BEAZER GROUP
P.O. BOX 1131 DURHAM, N.C. U.S.A. 27702
OFFICE TEL: (919) 682-6191 • TELEX: 6711650 • FAX: 688-4898

October 2, 1992

Mr. Arthur Mouberry
Regional Supervisor
NC Dept. of Environment, Health
and Natural Resources
Suite 101, 3800 Barrett Drive
Raleigh, NC 27609

Re: Nello L. Teer Company
Durham Quarry

Dear Mr. Mouberry:

The purpose of this letter is to inform you of a situation at a quarry operated by Nello L. Teer Company ("Teer") in Durham, North Carolina. The site at issue is a stone quarry and asphalt plant owned and operated by Nello L. Teer Company, which I will refer to as the Durham Quarry. This quarry was owned and operated in the 1940's by the North Carolina Department of Transportation ("NCDOT") and was subsequently sold to Teer. At a later date, Teer constructed and operated an on-site asphalt plant, and the NCDOT conducted asphalt testing (using solvents) at their on-site laboratory facility.

In November 1988, Teer removed four permanently closed underground storage tank ("UST") systems at the Durham Quarry. Since that time, we have discovered that there are constituents in the soil in the area where the tanks were located which may have come from the tanks.

For your further information, we are enclosing a copy of a letter to Richard Alexander at the NCDOT outlining that the above-referenced situation(s) may be attributable in part to the NCDOT by virtue of its previous activities and ownership of our quarry site before Teer acquired the premises.

We are now preparing a schedule of response activities to address this situation as well as expecting to hear from NCDOT regarding its role. We will in turn forward to you this applicable schedule of activities as soon as reasonably possible.

This letter is written solely for the purpose of providing you with notice of this situation, and in no way admits any liability on the part of Teer for any activities or conditions referenced in this letter.

Please feel free to call me if you have any questions.

Sincerely,

NELLO L. TEER COMPANY

Steven S. Edgerton, P.G.

cc: Floyd T. Morgan
Donald A. Lineberry
Donna J. Morris, Esquire
C. Howard Nye, Esquire
File

NELLO L. TEER COMPANY
A Member of THE BEAZER GROUP
P.O. BOX 1131 DURHAM, N.C. U.S.A. 27702
OFFICE TEL: (919) 682-6191 · TELEX: 6711650 · FAX: 688-4898

October 2, 1992

Mr. Richard E. Alexander
State of North Carolina
Department of Transportation
Post Office Box 25201
Raleigh, North Carolina 27611-5201

Re: Nello L. Teer Company
Durham Quarry

Dear Mr. Alexander:

The purpose of this letter is to inform you of a situation at a quarry operated by Nello L. Teer Company in Durham, North Carolina, and to request your attention and assistance in dealing with this situation. The site at issue is a stone quarry and asphalt plant owned and operated by Nello L. Teer Company, which I will refer to as the Durham Quarry. This quarry was owned and operated in the 1940's by the North Carolina Department of Transportation. At a later date, Nello L. Teer Company constructed and operated an on-site asphalt plant, and the NC DOT conducted asphalt testing (using solvents) at their on-site laboratory facility.

It has come to our attention that certain constituents have been found on the site in the vicinity of the testing laboratory used by the NC DOT which we believe are related to the laboratory activities of the NC DOT. Nello L. Teer Company intends to fully pursue all appropriate investigations and remediation of this site. In light of the NC DOT's past ownership of the quarry and operation of the laboratory, we believe that NC DOT bears some responsibility for any investigation and cleanup. We would like to discuss this matter with NC DOT representatives as soon as possible in order to negotiate an equitable cost-sharing arrangement.

Please call me at 1-800-999-6356 to discuss an appropriate time to convene a meeting. I look forward to hearing from you.

Sincerely,

NELLO L. TEER COMPANY

Steven S. Edgerton, P.G.

cc: Floyd T. Morgan
Donald A. Lineberry
Donna J. Morris
C. Howard Nye
File

Front Royal
Environmental Services, Inc.

R. Christian Reinhardt, P.G.
Project Manager
Senior Hydrogeologist

2200 Gateway Blvd. • Suite 205 • Morrisville, NC 27560
P.O. Box 4350 • Cary, NC 27519-4350
(919) 469-9795 • Fax (919) 469-3557

STATE OF NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES
RALEIGH REGIONAL OFFICE
3800 Barrett Drive, Suite 101
Raleigh, North Carolina 27609
(919)571-4700

FILE ACCESS RECORD

SECTION: GW Section
TIME/DATE:
NAME:
REPRESENTING:

GUIDELINES FOR ACCESS: The staff of the Raleigh Regional Office is dedicated to making public records in our custody readily available to the public for review and copying. We also have the responsibility to the public to safeguard these records and to carry out our day-to-day program ations. Please read carefully the following guid lines before signing this form.

(1) We prefer that you call at least a day in advance to schedule an appointment to review the files. Appointments will be scheduled between 9:00 a.m. and 3:00 p.m. Viewing time ends at 5:00 p.m. Anyone arriving without an appointment may view the files to the extent that time and staff supervision is available.

(2) You must specify files you want to review by facility name. The number of files that you may review at one time will be limited to five.

(3) You may make copies of a file when the copier is not in use by the staff and if time permits. Cost per copy is 10 cents; payment may be made by check, money order, or cash at the Reception desk.

(4) FILES MUST BE KEPT IN THE ORDER YOU FOUND THEM. Files may not be taken from the office. To remove, alter, deface, mutilate, or destroy material in one of these files is a misdemeanor for which you can be fined up to $500.00.

	FACILITY NAME	COUNTY
1.	Nello Teer	DR Co.
2.		
3.		
4.		
5.		

Chris Richardt
Signature & Name of Firm/Business
(Please attach a business card)

8/22/94 — Date
0900 — Time In
0930 — Time Out

Figure 10

Certificate # COD0165

North Carolina Division of Water Quality

Certificate of Approval for Disposal of Soil Containing Petroleum Products (GW-71)

- [X] Of 50 Cubic Yards or Less
- [ ] With Average Total Petroleum Hydrocarbon (TPH) Concentration ≤ Cleanup Level of 10 ppm (Method 5030), 40 ppm (Method 3550), 250 ppm (Method 9071)
- [ ] Temporary Storage
- [ ] Other (explain below)

Approval is Hereby Granted To:

Name: Quantum Environmental, Inc. Agent for Nello Teer
Address: 2200 Gateway Blvd., Suite 205
Morrisville, N.C. 27560

for the storage/disposal of approximately 40 cubic yards of contaminated soil as specified below:

Type of Contaminants: diesel fuel

Location of Source of Contaminant(s) (including business/owner name):
old Nello Teer Quarry
5013 Denfield St., Durham, NC 27704

Address of Source of Contaminant: same as above

County: Durham

Method of Disposal: Land application - 1" or less rate

Location(s) where contaminated soil will be stored or disposed of (map must be provided):
Grassy island in center of quarry open area (see map)

This approval is based upon information provided to the Regional Supervisor, Raleigh Regional Office, by the responsible party, who hereby agrees to conduct the approved soil disposal activities in accordance with applicable state, local or federal requirements and additionally agrees to abide by any special conditions or limitations specified below. **(Note: If the contaminated soil to be disposed of is regulated under Subtitles C or D of RCRA, then the soil shall not be disposed of without written permission from the NC Division of Waste Management.)**

Special Conditions, Limitations or Comments: Contaminated soil must be applied at a thickness not to exceed one inch and mixed with the native soil. A cover crop must be established to prevent soil erosion. Complete the aforementioned actions by November 29, 1999.

Certificate of Approval issued this the 5th day of October, 1999.

S Jay Zimmerman
Signature of DWQ Representative

Charles C. Penn, P.G.
Signature of Responsible Party

Raleigh Regional Office

GW-71 (12/10/97)

Quantum

Quantum Environmental, Inc.
2200 Gateway Boulevard, Suite 205
Morrisville, North Carolina 27560
Phone: (919) 469-9795 Fax: (919) 469-3557

LETTER OF TRANSMITTAL

To:	NCDENR – Div. of Environ. Mgmt.	*Date:*	October 15, 1999
	3800 Barrett Drive	*Re:*	Laboratory Analytical Report
	Raleigh, North Carolina 27609		Nello Teer Site
Attention:	Mr. Jay Zimmerman, P.G.		Durham, North Carolina

No. of Copies	*Description*
1	Lab Results; 3 soil samples taken on 10/04/1999 from Nello Teer Site in
	Durham, NC
	Quantum Project No. 2540-99-115

Purpose of Transmittal: [ ] For Comment [X] For Review [X] For Use
[X] For Approval [X] For Your Files [ ] _____

Comments: Here are the results as promised, call if you have any questions.

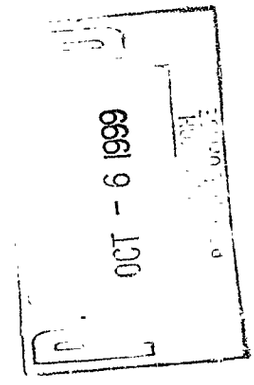
Please contact me if you have any questions. Sincerely, Charles C. Ross, P.G.
Quantum Environmental, Inc.

cc: _____ [ ] with [ ] without enclosure
_____ [ ] with [ ] without enclosure
_____ [ ] with [ ] without enclosure

Form Pw-065

Quantum Environmental, Inc.

October 5, 1999



Mr. Jay Zimmerman, P.G.
North Carolina Department of Environment and Natural Resources
Division of Water Quality
3800 Barrett Drive
Raleigh, North Carolina 27609

Re: Land Application Permit
Nello Teer site - Denfield Street Quarry
Durham, North Carolina
Quantum Project No. 0013-94-012

Mr. Zimmerman:

Quantum Environmental, Inc. (Quantum) personnel recently completed a spill response activity at the above referenced site in Durham, N.C. on October 4, 1999. This activity consisted of the excavation of approximately 40 cubic yards of affected soils related to a surface spill of diesel fuel from a leaking truck saddle tank at the Teer quarry site. This spill occurred over in June, 1999. The soil has been stockpiled on-site under plastic pending approval of the enclosed land application permit. The soils will be land applied at the location on the enclosed map. Two confirmation samples were collected from the bottom of the excavation and one composite sample was collected from the stockpiled soil. These samples were submitted for analysis today (October 5th) for TPH by 5030/3550. These sample results should be received by October 13 or 14. We will be happy to forward the results to you once they are received.

If you have any questions or comments concerning this request, please contact me at (919) 469-9795.

Sincerely,

QUANTUM ENVIRONMENTAL , INC.

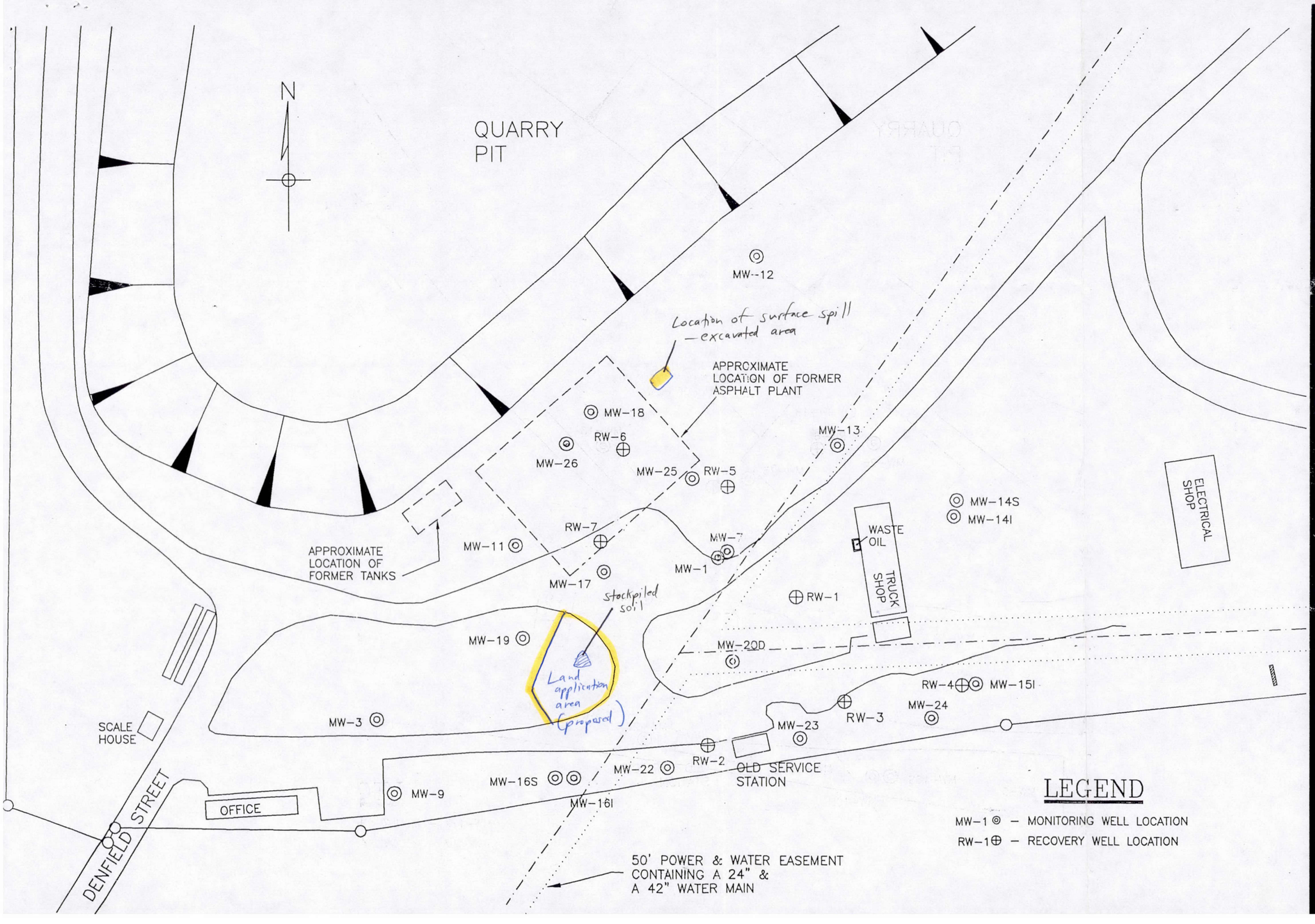
Charles C. Ross, P.G.
Project Hydrogeologist

L99-514

Attachments

cc: Mr. Steve Edgerton (Hanson Aggregates)

2200 Gateway Boulevard Suite 205 Morrisville, North Carolina 27560 919.469.9795 919.469.3557 fax



Quantum
ENVIRONMENTAL SERVICES, INC.

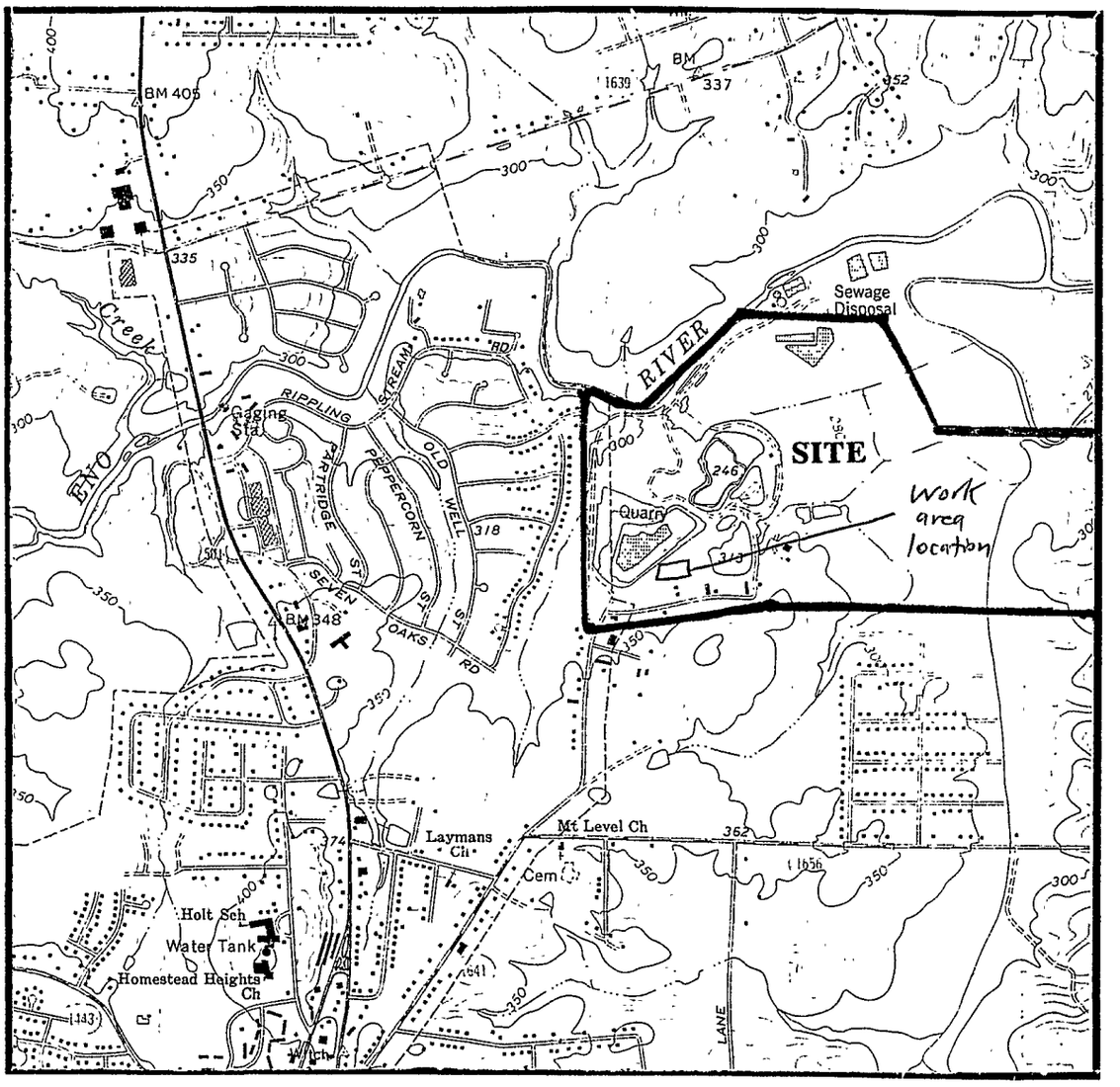
Figure 2

NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012
SCALE: 1"= 110'

DWN / DATE	CHK / DATE	CLIENT APPRO / DATE



Northwest Durham 7.5 min. Quad
USGS, 1987 (Revised)

Figure 1 - Location Map

Nello Teer
Quarry site

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 99-A152698
Sample ID: RW-7

Report Approved By: _____ Report Date: 10/12/99

Theodore J. Duello, Ph.D., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Services
Eric Smith, Assistant Technical Director
Gail A Lage, Technical Services

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

TESTAMERICA INC. 5752

2700 GATEWAY CENTRE BLVD. #625
MORRISVILLE, NC 27560

Project: 0013-94-012
Project Name: NELLO TEAR SITE
Sampler:

Lab Number: 99-A152699
Sample ID: CS-1
Sample Type: Soil
Site ID:

Date Collected: 10/ 4/99
Time Collected: 14:00
Date Received: 10/ 6/99
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
INORGANIC PARAMETERS:										
TPH (Gasoline Range)	ND	mg/kg	5.15	4.00	1	10/ 6/99	22:26	B.Herford	8015B/5030	6263
TPH (Diesel Range)	ND	mg/kg	10.1	4.00	1	10/ 9/99	8:35	K.Walkup	8015B/3550	6278
GENERAL CHEMISTRY PARAMETERS:										
% Dry Weight	97.	%			1	10/ 8/99	10:44	Fitzwater	SLP	6342

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
EPH/DRO	25.4 gm	1.0 ml	10/ 7/99	Fitzwater	3550

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	102.	50. - 150.
surr-o-Terphenyl	129.	50. - 150.

All samples have been corrected for dry weight.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 99-A152699
Sample ID: CS-1

Report Approved By: Gail A Lage Report Date: 10/12/99

Theodore J. Buelle, Ph.D., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Services
Eric Smith, Assistant Technical Director
Gail A Lage, Technical Services

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

TESTAMERICA INC. 5752

2700 GATEWAY CENTRE BLVD, #625
MORRISVILLE, NC 27560

Project: 0013-94-012
Project Name: NELLO TEAR SITE
Sampler:

Lab Number: 99-A152700
Sample ID: GS-2
Sample Type: Soil
Site ID:

Date Collected: 10/ 4/99
Time Collected: 14:05
Date Received: 10/ 6/99
Time Received: 9:00

Analyte	Result	Units	Report Limit	Quan Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
TPH (Gasoline Range)	ND	mg/kg	6.10	4.00	1	10/ 6/99	23:02	D.Herford	8015B/5030	6263
TPH (Diesel Range)	ND	mg/kg	12.3	4.00	1	10/ 9/99	9:23	K.Walkup	8015B/3550	8278
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	82.	%			1	10/ 8/99	10:44	Fitzwater	CLP	6342

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
EPH/DRO	24.8 gm	1.0 ml	10/ 7/99	Fitzwater	3550

Surrogate	% Recovery	Target Range
Surr-a,a,a-Trifluorotoluene	103.	50. - 150.
Surr-o-Terphenyl	113.	50. - 150.

All samples have been corrected for dry weight.

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 99-A152700
Sample ID: CS-2

Report Approved By: _____ Report Date: 10/12/99

Theodore J. Ovella, Ph.D., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Services
Eric Smith, Assistant Technical Director
Gail A Lage, Technical Services

Laboratory Certification Number: 387

SPECIALIZED ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40568
Nashville, TN 37204-0568
Phone 1-615-726-0177

ANALYTICAL REPORT

Laboratory Number: 99-A152701
Sample ID: SS-1

Report Approved By: _____ Report Date: 10/12/99

Theodore J. Duello, Ph.D., Lab Director
Michael H. Dunn, M.S., Technical Director
Johnny A. Mitchell, Dir. Technical Services
Eric Smith, Assistant Technical Director
Gail A Lage, Technical Services

Laboratory Certification Number: 387

SPECIALIZED
ASSAYS, INC.
2960 Foster Creighton Dr.
P.O. Box 40566
Nashville, TN 37204-0566
Phone 1-615-726-0177

ANALYTICAL REPORT

TESTAMERICA INC. 5752

2700 GATEWAY CENTRE BLVD, #623
MORRISVILLE, NC 27560

Project: 0013-94-012
Project Name: NELLO TEAR SITE
Sampler:

Lab Number: 99-A152701
Sample ID: SS-1
Sample Type: Soil
Site ID:

Date Collected: 10/ 4/99
Time Collected: 17:15
Date Received: 10/ 6/99
Time Received: 9:00

Analyte	Result	Units	Report Limit	Dose Limit	Dil Factor	Date	Time	Analyst	Method	Batch
ORGANIC PARAMETERS										
TPH (Gasoline Range)	ND	mg/kg	5.49	4.00	1	10/ 8/99	23:37	D.Hereford	8015M/5030	6263
TPH (Diesel Range)	16.5	mg/kg	11.0	4.00	1	10/ 9/99	9:58	M.Walkup	8015M/3550	6278
GENERAL CHEMISTRY PARAMETERS										
% Dry Weight	91.	%			1	10/ 8/99	10:44	Fitzwater	CLP	6342

ND = Not detected at the report limit.

Sample Extraction Data

Parameter	Wt/Vol Extracted	Extract Vol	Date	Analyst	Method
EPH/DRO	24.9 gm	1.0 ml	10/ 7/99	Fitzwater	3550

Surrogate	% Recovery	Target Range
surr-a,a,a-Trifluorotoluene	101.	50. - 150.
surr-o-Terphenyl	80.	50. - 150.

All samples have been corrected for dry weight.

POLLUTION INCIDENT/U.S.T. LEAK REPORTING FORM

Department of Environment, Health, Natural Resources
Division of Environmental Management
GROUNDWATER SECTION

Confirm. GW Contamination (Y/N) Y
Major Soil Contamination (Y/N) Y
Minor Soil Contaminatin (Y/N)

Incident # 9357

Date Incident Occurred or Leak Detected 10-2-92

INCIDENT DESCRIPTION

Incident Location/Name Nello L. Teer Co. (Durham Quarry)

Address Denfield Rd.

City/Town Durham | County Durham | Region Raleigh

Briefly Describe Incident

Water supply well was tested, was contaminated with diesel & gasoline, From USTs. Also low levels of Trichloroethylene showed up. An asphalt plant used to be there.

POTENTIAL SOURCE OWNER-OPERATOR

Potential Source Owner-Operator Steven Edgerton | Telephone (919) 682-9219

Company Nello L. Teer Co. | Street Address P.O. 1131

City Durham | County Durham | State N.C. | Zip Code 27702

OWNERSHIP
0. N/A 1. Municipal 2. Military 3. Unknown (4.) Private 5. Federal 6. County 7. State

OPERATION TYPE
0. N/A 1. Public Service 2. Agricultrural 3. Residential 4. Educational/Relig. (5.) Industrial 6. Commercial 7. Mining

POLLUTANTS INVOLVED

MATERIALS INVOLVED	AMOUNT LOST	AMOUNT RECOVERED
Gasoline	unknown	none
Diesel	unknow	none
Trichloroethylene		

SOURCE OF POLLUTION

PRIMARY SOURCE OF POLLUTION (Select one)
1. Intentional dump
2. Pit, pond, lagoon
(3.) Leak-underground
4. Spray irrigation
5. Land application
6. Animal feedlot
7. Source unknown
8. Septic tank
9. Sewer line
10. Stockpile
11. Landfill
(12.) Spill-surface
13. Well
14. Dredge spoil
15. Nonpoint source

PRIMARY POLLUTANT TYPE (Select one)
1. Pesticide/herbicide
2. Radioactive waste
(3.) Gasoline/diesel
4. Heating oil
5. Other petroleum prod.
6. Sewage/septage
7. Fertilizers
8. Sludge
9. Solid waste leachate
10. Metals
11. Other inorganics
12. Other organics

LOCATION
(1.) Facility
2. Railroad
3. Waterway
4. Pipeline
5. Dumpsite
6. Highway
7. Residence
8. Other

SETTING
(1.) Residential
2. Industrial
3. Urban
4. Rural

Site Priority Ranking 1 C 13

D.E.M. Regional Contact Barry Love | Signature Barry E Love | Date 10-29-92

GW-61 Revised 3/92

IMPACT ON DRINKING WATER SUPPLIES

WELLS AFFECTED (1. YES) 2. NO

NUMBER OF WELLS AFFECTED 1

Well(s) Contaminated: (Users Name)

1. Nello L. Teer Company
2.
3.
4.
5.

Circle Appropriate Responses

Lab Samples Taken By: 1. DEM 2. DHS (3. Responsible Party) 4. Other 5. None

Samples Taken Include: (1. Groundwater) 2. Soil

LOCATION OF INCIDENT

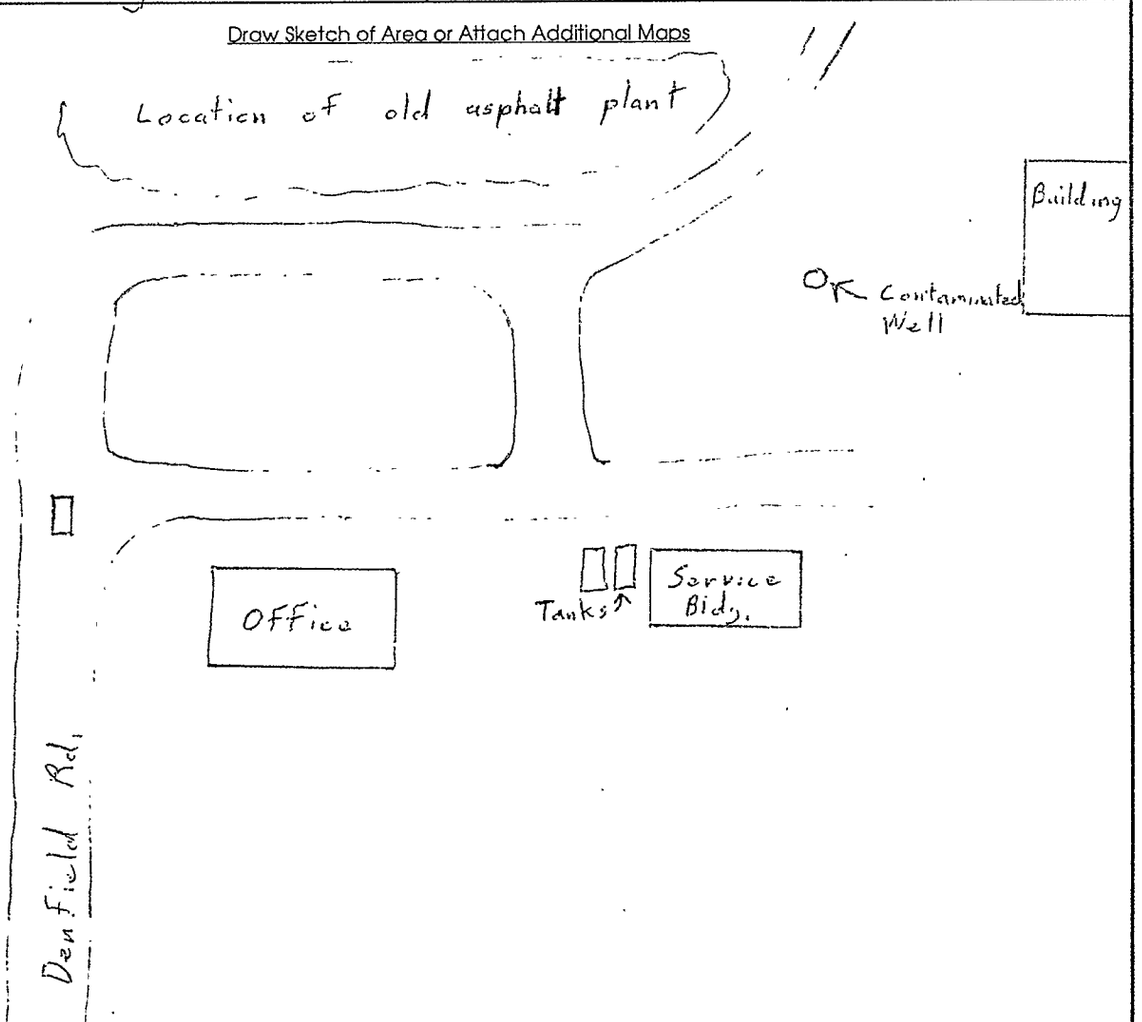
7 1/2 Min. Quad Name: Northwest Durham

5 Min. Quad Number: I 42 g

Lat. : Deg : Min : Sec : 36° 03' 59"

Long. : Deg : Min : Sec : 78° 53' 36"

Draw Sketch of Area or Attach Additional Maps



Incident Name: Nello L. Teer (Durham Quarry) Region/County: Raleigh / Durham

Groundwater Incident File #_____ Ranking Performed by: B. Love

Date: 10-29-92

NORTH CAROLINA
GROUNDWATER CONTAMINATION INCIDENT MANAGEMENT
SITE PRIORITY RANKING SYSTEM

(To be completed by Regional Office)

		Points Awarded
I.	IMMINENT HAZARD ASSESSMENT	
A.	Explosion - free product in confined areas or vapor phase product detected at or above 20% of the lower explosive limit or at health concern levels; award 50 points total	_____
B.	Fire - free product subject to ignition in exposed areas such as surface water impoundments, streams, excavations, etc.; award 50 points total	_____
II.	EXPOSURE ASSESSMENT	
A.	Contaminated Drinking Water Supplies	
1.	Private, domestic water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 10 points per well	10
2.	Public or institutional water supply well containing substances in concentrations exceeding 15A NCAC 2L groundwater quality standards; award 20 points per well	_____
3.	Exceedances of Class WS-1 surface water quality standards as a result of groundwater discharge; award 20 points per surface water body impacted	_____
4.	If a water supply well identified in items II. A. 1 and II. A. 2 cannot be replaced by an existing public water supply source requiring hook-up only; award additional 10 points per irreplaceable well	_____
B.	Threat to Uncontaminated Drinking Water Supplies	
1.	Private, domestic water supply well located within 1500 feet down gradient of contaminant source; award 10 points per well	30
2.	Public or institutional water supply well located within 1500 feet downgradient of contaminant source; award 15 points per well	_____
3.	Raw surface water intake for public water supply located within 1/2 mile downgradient of contaminant source; award 5 points per water supply system	_____
4.	If any well identified in items II. B. 1 and II. B. 2 or an intake in item II. B. 3. are located within 250 feet of contaminant source; award additional 20 points total (not per well or intake)	20
C.	Vapor Phase Exposure	
1	Product vapors detected in inhabitable building(s) below 20% of the lower	

Points Awarded

2. Product vapors detected in other confined areas (uninhabitable buildings, sewer lines, utility vaults, etc.) below 20% of the lower explosive limit; award 10 points total _____

II. SOURCE ASSESSMENT

A. Uncontrolled or Unabated Primary Source (including dumpsites, stockpiles, lagoons, land applications, septic tanks, landfills, underground and above ground storage tanks, etc.)

1. Suspected or confirmed source remains in active use and continues to receive raw product, wastewater or solid waste; award 30 points per source _____

2. Active use of suspected or confirmed source has been discontinued or source was caused by a one-time release of product or waste, however, source continues to release product or contaminants into the environment; award 10 points per source 20

IV. ENVIRONMENTAL VULNERABILITY ASSESSMENT

A. Vertical Contaminant Migration - Literature or well logs indicate that no confining layer is present above bedrock or within twenty feet of land surface; award 10 points total 10

B. Horizontal Contaminant Migration - Data or observations indicate that no discharge points or aquifer discontinuities exist between the source and the nearest downgradient drinking water supply; award 10 points total _____

C. Existing Groundwater Quality - The worst case monitor or supply well contains contaminant levels:

1. At less than 10 times the 2L groundwater standards; award 5 points _____

2. Between 10 and 100 times the 2L groundwater standards; award 20 points 20

3. Greater than 100 times the 2L groundwater standards; award 40 points _____

V. REGIONAL OFFICE RESPONSE (LETTER RANK)

Priority A - (Site meets any one of the criteria)

1. Water supply well(s) contaminated and no alternate water supplies available.

2. Vapors present in confined areas at explosive or health concern levels.

3. Treated surface water supply in violation of the safe drinking standards.

Priority B - (Any One)

1. Water supply well(s) contaminated, but alternate water supplies available.

2. Water supply well(s) within 1500 feet of site, but not contaminated and no alternate water supplies available.

3. Vapors present in confined areas but not at explosive or health concern levels.

Priority C - (Both)

1. No water supply well(s) contaminted.

2. Water supply well(s) greater than 1500 feet from site, no alternate water supply available.

Priority D - (Both)

1. No water supply well(s) contaminted.

2. Water supply well(s) within 1500 feet of site but alternate water supplies available.

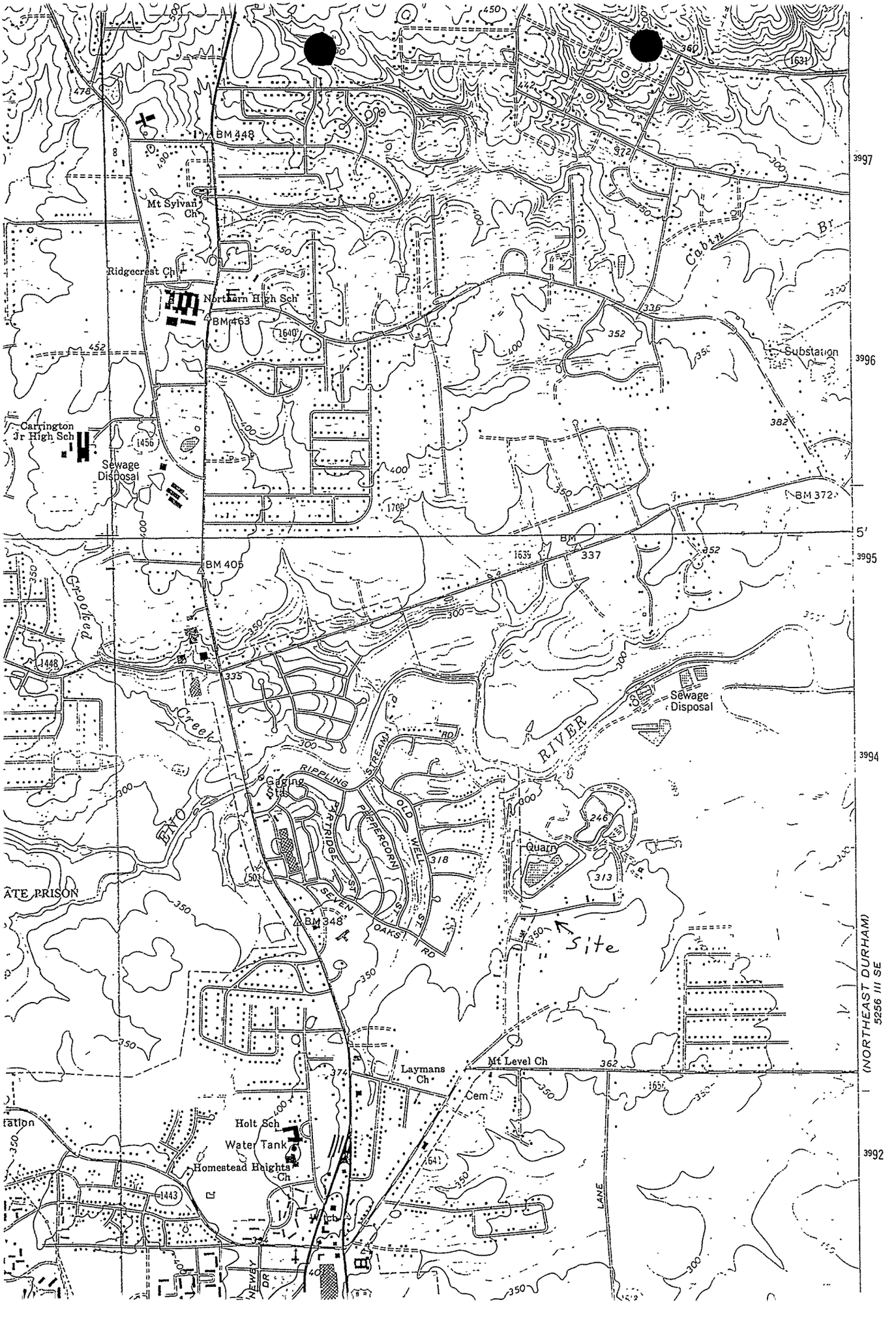
Priority E - (Both)

1. No water supply well(s) contaminated or within 1500 feet of site.

2. Area served by alternate water supply.

TOTAL POINTS AWARDED

110 B
#/Letter


BM 448
Mt Sylvan Ch
Ridgecrest Ch
Northern High Sch
BM 463
Carrington Jr High Sch
Sewage Disposal
BM 372
BM 337
BM 405
Substation
Cabin Br
Sewage Disposal
RIVER
Quarry
Site
Gaging Sta
RIPPLING
STREAM
RD
PARTRIDGE
PEPPERCORN
OLD WELL
ST
SEVEN OAKS
BM 348
ATE PRISON
Laymans Ch
Mt Level Ch
Cem
Holt Sch
Water Tank
Homestead Heights Ch
NEWBY DR
LANE
3997
3996
3995
3994
3992
(NORTHEAST DURHAM)
5256 III SE

State of North Carolina
Department of Environment,
Health and Natural Resources
Division of Environmental Management

James B. Hunt, Jr., Governor
Jonathan B. Howes, Secretary
A. Preston Howard, Jr., P.E., Director

DEHNR

DIVISION OF ENVIRONMENTAL MANAGEMENT
GROUNDWATER SECTION
December 29, 1993

Mr. Steven Edgerton
Nello L. Teer Company
P. O. Box 1131
Durham, NC 27702

RE: Review of Comprehensive Site Assessment (CSA) and Corrective Action Plan (CAP)
Nello L. Teer Durham Quarry
Durham, Durham County
Incident Number 9357

Dear Mr. Edgerton:

After review of the Comprehensive Site Assessment (CSA) and the Corrective Action Plan (CAP) dated October 28, 1993 and December 3, 1993, respectively, for the Nello L. Teer Durham Quarry located in Durham North Carolina, this office has the following comments which must be addressed before approval can be given:

1) Install monitoring well(s) to the south of plume to fully delineate groundwater contamination.

2) The soil remediation goal must be less than 10 ppm of TPH for low boiling point fuels and less than 40 ppm of TPH for high boiling point fuels. An SSE cannot be used at this site because groundwater has been impacted. EAP For Areas where cont. >5FT

3) The use of W-1 as a recovery well is unacceptable. This well is a drinking water well and was not constructed as a recovery well. The use of this well has already caused the contamination to migrate down the well casing and contaminate the deep aquifer. To stop the spread of contamination the use of this well should be stopped and the well properly abandoned immediately in accordance with 15A NCAC 2C .0112(a).

4) Please note that any work associated with soil contamination not originating from the UST system is not reimbursable by the NC Trust Fund. (i.e. contamination around the septic tank drain field, surface water drainage and former asphalt plant do not appear to be associated with a release from a UST).

5) Submit a map showing the expected radius of influence from the four pumping wells overlaid on a plume map.

6) As discussed previously, the in-situ bio-remediation/vapor extraction system may be permitted in North Carolina, but the cost may be high. To ensure that the work will be reimbursed by the NC Trust Fund, ensure that this and all work preformed is reasonable and necessary.

7) Trust Fund (TF) eligibility has not been determined as of the date of this letter, therefore, all notation of TF reimbursement is only if the site is determined to be eligible and for reasonable and necessary cost.

8) Sample quarterly in February, May, August, and November and submit a report no later than the last day of the following month. This report should include at least the following information:

- Sample quarterly all wells and analyzed using EPA methods 601, 602 and 610 or 502.2.
- Gauge free product quarterly.
- Measure water levels for all wells quarterly. Submit isopleth map of data.
- Produce "plume" maps for Benzene and total BTEX.

9) Apply for all permits by February 1, 1994 and provide proof that a complete applications have been submitted to the proper parties.

10) Ensure that you evaluate at least 3 clean up technologies for cost efficiency, once chosen, obtain cost associated with the technology from 3 vendor's.

Before approval of the Corrective Action Plan can be granted, the above noted items must be addressed. Please submit the requested information before February 1, 1994.

If you have any questions please feel free to contact me at (919) 571-4700.

Sincerely

Robert O. Walton III
Hydrogeological Technician
Groundwater Section

RW:rw

cc: Donald Smith - Geonetics Corporation (NC office)

9357_CAP.rev

NCDENR
North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director | Division of Waste Management | Michael F. Easley, Governor
William G. Ross Jr., Secretary

December 12, 2007

STATE FILE
DWQ TRANSFER
8,TE

Ms. Vicki Westbrook, Deputy Director
Department of Water Management
City of Durham
101 City Hall Plaza
Durham, NC 27701

Re: Former Nello Teer Quarry Site
5013 Denfield Street
Durham, Durham County

Dear Ms. Westbrook:

As I indicated in our conversation earlier today, the Inactive Hazardous Sites Branch recently learned of the City of Durham's plan to use the former Nello Teer Quarry as part of the City's water supply system. Please be advised that soil and groundwater contamination have been detected at this Site and the Site is currently listed on the NC Division of Waste Management's Superfund Section, Inactive Hazardous Sites Branch's inventory of sites. Based on our conversation, it is my understanding that the City of Durham is aware of the contamination detected at this Site and has determined that it has not impacted the area intended for use by the City's water supply system.

To ensure that your office has all available information for this Site, you are encouraged to review the files located in our office in Raleigh. To schedule a file review appointment, please contact Scott Ross at (919) 508-8475. If there are any questions, please call me at (919) 508-8485.

Sincerely,

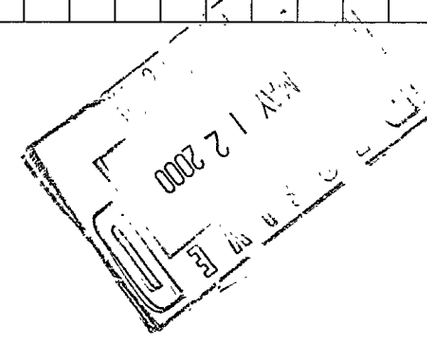
John W. Walch

John W. Walch
Eastern Unit Supervisor
Inactive Hazardous Sites Branch
Superfund Section

cc: Dexter Matthews

Quantum Environmental, Inc.

May 10, 2000



Mr. Jay Zimmerman
NCDENR
Raleigh Regional Office
3800 Barrett Drive
Raleigh, North Carolina 27609

Re: May 4, 2000 Recovery Well Permit Application (Revised May 9)
Former Nello Teer Quarry Site, Durham, N.C.
NC Groundwater Incident No. 9357

Dear Mr. Zimmerman:

Per your conversation today with Tom Davis, Quantum has received the chemical resistance information from the manufacturer of the PVC well material (Harvel). If PVC deterioration of the material is a concern, then this is not expected to be an issue at the low concentrations encountered at this site. If the issue of concern is an analytical bias from absorption, then the well materials are irrelevant because the function of the well is for deep aquifer groundwater recovery, not monitoring. Quantum anticipates very low concentrations of chlorinated solvents to exist in the deep aquifer at this location, similar to the concentrations which currently exist in MW-13 (nearest deep well)(see attached table).

Two tables have been included for your review, along with a chemical resistance statement from the manufacturer. Although these materials may be inappropriate for *pure* concentrations of chlorinated solvents, Quantum is recommending (with the manufacturers approval) the use of this material as appropriate for the low levels of chlorinated constituents dissolved in the groundwater at this location (threshold concentrations only). The proposed PVC riser pipe has 1/4" thick walls. Thus, the concentrations of chlorinated solvents in the groundwater at this site are not high enough to represent a threat of well material decomposition.

Thank you for taking the time to review the information on this site. If you have any additional questions, please contact me at (919) 469-9795.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Charles C. Ross, P.G.
Project Hydrogeologist

L00-174:CCR

Attachments

2200 Gateway Boulevard Suite 205 Morrisville, North Carolina 27560 919.469.9795 919.469.3557 fax

resistance to paraffin buildup, its use for handling high paraffin oils in crude oil gathering lines is recommended.

EASY JOINING ON THE SITE: Tight dependable connections are made by solvent welding of Harvel pipe and fittings. Joints quickly develop maximum strength, equalling that of the pipe itself, and maintaining it over the entire operating temperature range. Harvel pipe is strong and tough and thrpaded joints can be made if desired.

WILL NOT SUPPORT COMBUSTION: Many materials have flame spread rate that exceeds the rate allowed by some building codes and therefore limits thier use. Harvel thermoplastic pipe has an ASTM E-84 flame spread rate of less than 25. Consequently, it is approved by many codes throughout the country for piping, conduit, and duct work.

Chemical Properties

CORROSION RESISTANCE

Harvel rigid thermoplastic pipe and tubing resists chemical attack by most acids, alkalies, salts, and organic media such as aliphatic hydrocarbons, within the limits of temperature and pressure discussed in this bulletin. It thus provides the needed chemical resistance, while eliminating the disadvantages of special metals, lined piping, glass, wood, ceramics, or other special corrosion-resisting materials, which formerly had to be used.

Industrial fumes, humidity, salt water, weather, atmosphere, or underground conditions, regardless of type of soil or mbisture encountered, cannot harm Harvel rigid PVC or CPVC plastic pipe. Scratches or surface abrasions do not provide points where corrosion can attack.

IMMUNITY TO GALVANIC OR ELECTROLYTIC ATTACK

Harvel pipe and tubing is inherently immune to galvanic or electrolytic action. It can be used underground, under water, in the presence of metals or used as an insulator between them.

FREEDOM FROM TOXICITY, ODORS, TASTES

Harvel pipe and tubing is non-toxic, odorless, and tasteless – facts important in the handling of food and drug products. Harvel rigid PVC and CPVC plastic pipe has been approved by the National Sanitation Foundation and by the U.S. Navy for use with potable water, and carries the NSF Seal of Approval. Harvel 1120 (Normal Impact) pipe has been approved by the U.S. Department of Agriculture for conveying brine and similar liquids in meat packing plants under their supervision.

CHEMICAL INERTNESS

Harvel thermoplastic pipe and tubing is chemically inert to most reagents. It cannot react with materials carried, nor act as a catalyst. All possibility of contamination, or chemical process changes, and all danger of clouding, sludging, or discoloration, are eliminated.

CHEMICAL RESISTANCE

If a chemical attack occurs, its effect on plastics is substantially different from its attack on metals, which is known as corrosion. Metal corrosion means the slow wearing away by chemical or electrolytic action. Chemical attack on plastics indicates a process of swelling and dissolving. Swelling which normally precedes dissolving alters the properties of this material.

Contact with very strong acids at high temperatures can lead to failure due to degradation of either the polymer molecule itself or of other additives in the plastic. Environmental stress cracking is a surface attack in which pre-existing surface flaws such as scratches or pores are further weakened and propagated by contact with certain polar chemicals.

Chemical resistance data given are based on laboratory tests. These data are only a basis for recommendation, but no guarantee.

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-12

Constituent	Date				2L Standard
	9/9/1993 (1)	8/30/1994(2)	1/26/1995(2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	15.00

Deep aquifer concentrations expected to be encountered in RW-9

MW-13

Constituent	Date											2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995(2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/3/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	3.10	BDL	BDL	1.13	3.40	BDL	1.00	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	2.83	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	2.63	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	3.20	2.00	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	23.10	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	29.69	3.40	0.00	4.20	2.00	0.00	0.00	
1,1-Dichloroethane	4.40	6.00	7.90	13.20	2.06	2.40	2.67	11.00	7.90	3.30	6.4	700.00
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	3.80	BDL	2.70	BDL	BDL	2.2	200.00
Trichloroethene	BDL	5.10	BDL	4.10	BDL	2.90	3.02	2.40	BDL	2.40	2.8	2.80
1,1-Dichloroethene	BDL	BDL	BDL	2.30	BDL	3.00	BDL	2.50	1.70	1.70	4.2	7.00
cis-,1,2-Dichloroethylene	BDL	3.40	BDL	3.40	2.48	4.10	BDL	BDL	BDL	2.70	2.2	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	1.40	BDL	BDL	1.20	BDL	BDL	0.02
Total CVOCs	4.40	14.50	7.90	23.00	57.33	21.00	5.69	18.60	10.80	10.10	17.80	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-24

Constituent	Date										2L Standard
	4/28/1994 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.60	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.00	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.80	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	1.20	1.80	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	1.20	15.20	0.00	0.00	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00	0.00	
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

worst case Shallow aquifer concentrations

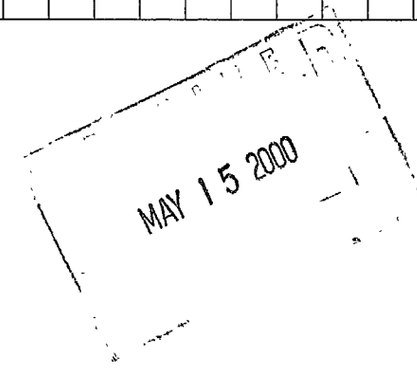
MW-25

Constituent	Date										2L Standard
	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	336.00	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	2.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00
EDB	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	2.20	336.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	840.00	690.00	632.00	1,100.00	262.00	259.00	350.00	240.00	282.00	185.00	700.00
1,2-Dichloroethane	BDL	BDL	BDL	BDL	7.60	BDL	7.50	BDL	1.30	2.00	0.38
1,1-Dichloroethene	BDL	770.00	708.00	1,270.00	618.00	501.00	390.00	340.00	204.00	280.00	7.00
Trichloroethene	280.00	125.00	267.00	232.00	152.00	206.00	81.00	BDL	98.00	110.00	2.80
1,1,1-Trichloroethane	BDL	1,710.00	2,709.00	3,920.00	1,440.00	2,080.00	620.00	1,000.00	358.00	725.00	200.00
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	3.70	6.60	BDL	BDL	2.20	1.00
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	5.20	BDL	BDL	BDL	2100.00
Tetracholorethene	BDL	BDL	BDL	BDL	BDL	BDL	1.40	BDL	BDL	2.50	0.70
cis-,1,2-Dichloroethylene	330.00	470.00	319.00	429.00	164.00	BDL	BDL	BDL	151.00	32.00	70.00
Vinyl Chloride	BDL	BDL	BDL	126.00	85.60	48.90	BDL	30.00	BDL	33.20	0.02
Chloroethane	BDL	BDL	BDL	BDL	BDL	8.74	4.30	BDL	BDL	8.20	2800.00
Carbon Tetrachloride	BDL	BDL	BDL	BDL	192.00	BDL	BDL	BDL	BDL	BDL	0.30
1,1,2,2 Tetrachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	1.00
Total CVOCs	1,450.00	3,765.00	4,635.00	7,077.00	2,921.20	3,107.34	1,466.00	1,610.00	1,094.30	1,381.10	
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA		15.00

Quantum Environmental, Inc.

May 12, 2000

Mr. ~~Jim Greer~~ Eric Rice
NCDENR
Raleigh Regional Office
3800 Barrett Drive
Raleigh, North Carolina 27609



Re: Upcoming Semi-Annual Groundwater Monitoring Event
Former Nello Teer Quarry Site, Durham, N.C.
NC Groundwater Incident No. 9357

Dear Mr. Greer:

I wanted to touch base with you about upcoming work at the above referenced site. As you may be aware, this site has two groundwater contaminant plumes (one petroleum, one non-petroleum) which are distinct and separate by several hundred feet. We were curious as to whether or not you had yet seen a copy of either of the previous two monitoring reports conducted during 1999 (June and December 1999 sampling events). Both of these reports were submitted to the Raleigh Regional Office in January to Jay Zimmerman. In a conversation with Mr. Zimmerman yesterday, he had requested that in the future we mail two copies of the report - one to you as the Durham County Groundwater case manager, and one to Tom Arrington in the UST Section. We will be doing this in the future, and we would be happy to provide you with another copy of the most recent sampling event (December 1999) if you need it for background. Tom Arrington granted us verbal permission in March to reduce the number of monitoring wells by about half.

Quantum has a second request concerning the chlorinated solvent portion of this site. Please refer to the enclosed Figure 6 for the generalized solvent plume area. Since 1995, the sampling protocol for all wells at this site has been using EPA Methods 601, 602 and 610. In the solvent plume area, Quantum no longer finds it necessary to continue sampling the solvent plume monitoring wells for semi-volatiles using Method 610, as five years of data has shown no semivolatile constituents in this area. Quantum, therefore requests that monitoring wells MW-13, 17, 18, 25, and 26 be required to sample only using Method 602, or alternatively for 601 and 602 if the Raleigh Regional Office feels it is important to continue sampling for BTEX constituents in this area. I have enclosed the historical monitoring results table (Table 4) for your review.

Quantum requests a decision concerning this issue by June 5, which is our next scheduled sampling event. Please feel free to call and discuss this site at any time. If you have any questions, please contact me at (919) 469-9795.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Charles C. Ross, P.G.
Project Hydrogeologist

L00-181:CCR

2200 Gateway Boulevard Suite 205 Morrisville, North Carolina 27560 919.469.9795 919.469.3557 fax

N

QUARRY
PIT

APPROXIMATE
LOCATION OF FORMER
ASPHALT PLANT

0.015

MW-18 (3.8)

RW-6

MW-26 (6.0)

3.10

MW-25 (33.2)

RW-5 (30.7)

RW-7 (6.0)

MW-17 (5.5)

BDL MW-7

MW-1

MW-11

APPROXIMATE
LOCATION OF
FORMER TANKS

MW-13

NS MW-14S

MW-14I

ELECTRICAL
SHOP

WASTE
OIL

TRUCK
SHOP

RW-1

MW-19 (NS)

MW-20D

RW-4 MW-15I

MW-24 (BDL)

RW-3

MW-23

MW-3

SCALE
HOUSE

NS MW-16S

MW-16I

MW-22

RW-2

OLD SERVICE
STATION

MW-9

OFFICE

DENFIELD STREET

50' POWER & WATER EASEMENT
CONTAINING A 24" &
A 42" WATER MAIN

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION

RW-1 ⊕ – RECOVERY WELL LOCATION

6.0 – VINYL CHLORIDE CONCENTRATION

BDL – VINYL CHLORIDE ISOPLETH @ 2L STANDARD

BDL – BELOW DETECTION LIMIT

DETECTION LIMIT OF 1.0 UG/L IS ABOVE 2L STANDARD OF 0.015 UG/L

Quantum ENVIRONMENTAL, INC.

FIGURE 6

SHALLOW AQUIFER
VINYL CHLORIDE PLUME
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012

SCALE: 1"= 110'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
1 / 00		

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-1

Constituent	Date											2L Standard
	5/20/1993 (1)	8/29/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/11/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	0.70	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

RW-2 (former MW-2)

Constituent	Date				2L Standard
	5/7/1993 (1)	5/20/1993 (1)	8/29/1994 (2)	08/29/99	
Benzene	**575.00**	**353.00**	**95.00**	**6.80**	1.00
Toluene	**1,160.00**	418.00	19.00	BDL	1000.00
Ethylbenzene	**84.40**	BDL	**62.00**	BDL	29.00
Xylenes	**1,425.00**	106.00	61.00	BDL	530.00
Naphthalene	NA	NA	2.78	BDL	21.00
MTBE	NA	BDL	NA	BDL	200.00
EDB	NA	BDL	NA	BDL	70.00
IPE	NA	BDL	NA	BDL	0.07
Total VOCs	2,200.40	877.00	239.78	6.80	
1,1-Dichloroethane	NA	BDL	BDL	BDL	700.00
Trichloroethene	NA	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	NA	**90.00**	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	90.00	0.00	
Lead	<0.05	0.20	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-3

Constituent	Date				2L Standard
	5/21/1993 (1)	8/29/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	BDL	BDL	NA	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	
Lead	0.056	NA	NA	NA	15.00

MW-4

Constituent	Date	2L Standard
	5/18/1993 (1)	
Benzene	BDL	1.00
Toluene	0.70	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	BDL	21.00
MTBE	BDL	200.00
EDB	BDL	70.00
IPE	BDL	0.07
Total VOCs	0.00	
1,1-Dichloroethane	BDL	700.00
Trichloroethene	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	70.00
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	0.50	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-5

Constituent	Date		2L Standard
	5/7/1993 (1)	5/20/1993 (1)	
Benzene	BDL	BDL	1.00
Toluene	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	29.00
Xylenes	BDL	BDL	530.00
Naphthalene	NA	BDL	21.00
MTBE	NA	BDL	200.00
EDB	NA	BDL	70.00
IPE	NA	BDL	0.07
Total VOCs	0.00	0.00	
1,1-Dichloroethane	NA	BDL	700.00
Trichloroethene	NA	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	70.00
Vinyl Chloride	NA	BDL	0.02
Total CVOCs	0.00	0.00	
Lead	NA	0.07	15.00

MW-6

Constituent	Date	2L Standard
	5/21/1993 (1)	
Benzene	BDL	1.00
Toluene	BDL	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	BDL	21.00
MTBE	BDL	200.00
EDB	BDL	70.00
IPE	BDL	0.07
Total VOCs	0.00	
1,1-Dichloroethane	BDL	700.00
Trichloroethene	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	70.00
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	0.03	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-7

Constituent	Date											2L Standard
	5/21/1993 (1)	8/29/1994 (2)	1/26/1995 (2)	8/29/95 (2)	4/27/1995(2)	3/14/96 (2)	10/11/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	5.1	200.00
EDB	BDL	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.10	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-8

Constituent	Date	2L Standard
	5/19/1993 (1)	
Benzene	BDL	1.00
Toluene	BDL	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	BDL	21.00
MTBE	BDL	200.00
EDB	BDL	70.00
IPE	BDL	0.07
Total VOCs	0.00	
1,1-Dichloroethane	BDL	700.00
Trichloroethene	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	70.00
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	<0.05	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-9

Constituent	Date				2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	BDL	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	1.30	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	1.30	
Lead	<0.05	NA	NA	NA	15.00

MW-11

Constituent	Date											2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/13/96 (2)	10/9/96 (2)	12/3/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	NA	NA	1.30	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	0.00	0.00	
1,1-Dichloroethane	0.60	BDL	BDL	BDL	BDL	2.40	BDL	3.00	2.20	1.00	BDL	700.00
Trichloroethene	BDL	BDL	2.50	1.80	BDL	1.60	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	22.90	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.60	0.00	2.50	24.70	0.00	4.00	0.00	3.00	2.20	1.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-12

Constituent	Date				2L Standard
	9/9/1993 (1)	8/30/1994(2)	1/26/1995(2)	4/27/1995 (2)	
Benzene	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	200.00
EDB	BDL	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	15.00

MW-13

Constituent	Date											2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995(2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/3/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	**3.10**	BDL	BDL	**1.13**	**3.40**	BDL	**1.00**	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	2.83	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	2.63	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	3.20	2.00	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	23.10	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	29.69	3.40	0.00	4.20	2.00	0.00	0.00	
1,1-Dichloroethane	4.40	6.00	7.90	13.20	2.06	2.40	2.67	11.00	7.90	3.30	6.4	700.00
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	3.80	BDL	2.70	BDL	BDL	2.2	200.00
Trichloroethene	BDL	**5.10**	BDL	**4.10**	BDL	**2.90**	**3.02**	2.40	BDL	2.40	2.8	2.80
1,1-Dichloroethene	BDL	BDL	BDL	2.30	BDL	3.00	BDL	2.50	1.70	1.70	4.2	7.00
cis-,1,2-Dichloroethylene	BDL	3.40	BDL	3.40	2.48	4.10	BDL	BDL	BDL	2.70	2.2	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	**1.40**	BDL	BDL	**1.20**	BDL	BDL	0.02
Total CVOCs	4.40	14.50	7.90	23.00	57.33	21.00	5.69	18.60	10.80	10.10	17.80	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-14S

Constituent	Date										2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)		
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	Dry well -	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	1.17	BDL	BDL	No samples	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	for 1999	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	2.10	BDL	BDL		21.00
MTBE	BDL	NA	NA	BDL	**507.00**	BDL	BDL	4.10	2.20		200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA		70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA		0.07
Total VOCs	0.00	0.00	0.00	0.00	507.00	0.00	3.27	4.10	2.20		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL		0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	3.27	0.00	0.00		
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA		15.00

MW-14I

Constituent	Date										2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/15/96 (2)	10/9/96 (2)	12/3/1997 (3)	5/13/98 (3)	6/17/99 (4)	Dec-99	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-15S

Constituent	Date					2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/30/95 (2)	
Benzene	**10.70**	**17.50**	BDL	BDL	BDL	1.00
Toluene	8.80	2.60	BDL	BDL	BDL	1000.00
Ethylbenzene	**76.40**	**147.00**	**43.00**	**56.30**	**77.70**	29.00
Xylenes	NA	430.00	170.00	188.00	205.00	530.00
Naphthalene	13.00	**63.30**	**60.90**	**53.40**	**27.60**	21.00
MTBE	8.30	NA	NA	NA	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	0.07
Total VOCs	117.20	660.40	273.90	297.70	310.30	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	15.00

MW-15I

Constituent	Date											2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	**2.16**	BDL	BDL	BDL	**1.30**	**4.80**	**2.5**	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	BDL	1000.00
Ethylbenzene	BDL	2.70	3.40	1.90	BDL	BDL	BDL	BDL	BDL	1.20	BDL	29.00
Xylenes	BDL	3.60	9.00	BDL	BDL	BDL	BDL	BDL	BDL	1.90	4.4	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.20	BDL	BDL	21.00
MTBE	BDL	NA	NA	BDL	44.60	BDL	BDL	12.00	13.00	BDL	6.1	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	**5.70**	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	BDL	6.30	12.40	1.90	52.46	0.00	0.00	12.00	15.20	8.90	10.50	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-16S

Constituent	Date							2L Standard	
	9/9/1993 (1)	8/30/1994 (2)	1/25/95 (2)	4/27/1995 (2)	3/14/96 (2)	10/9/96 (2)	5/13/98 (3)		
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	Dry Well
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00	no 1999 samples
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00	
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00	
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00	
MTBE	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00	
EDB	BDL	NA	NA	NA	NA	NA	NA	70.00	
IPE	BDL	NA	NA	NA	NA	NA	NA	0.07	
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00	
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80	
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00	
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02	
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
Lead	<0.05	NA	NA	NA	NA	NA	NA	15.00	

MW-16I

Constituent	Date										2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	3/14/96 (2)	10/9/96 (2)	12/1/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21
MTBE	BDL	NA	NA	NA	NA	NA	BDL	BDL	BDL	BDL	200
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	70
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	1.1	BDL	BDL	BDL	2.8
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	1.1	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	15

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-17

Constituent	Date											2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/13/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	17.10	BDL	15.50	23.30	23.40	10.40	9.33	7.40	7.20	6.00	7.3	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	3.80	2.10	2.92	1.30	BDL	BDL	BDL	1.00	BDL	70.00
Vinyl Chloride	**2.20**	**38.90**	**63.00**	BDL	**23.40**	**35.30**	**21.70**	BDL	**2.60**	**5.00**	**5.7**	0.02
Total CVOCs	19.30	38.90	82.30	25.40	49.72	47.00	31.03	7.40	9.80	12.00	13.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-18

Constituent	Date											2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	1.30	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	70.00
IPE	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	NA	BDL	0.07
Total VOCs	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	48.10	BDL	BDL	97.90	71.30	5.80	10.60	12.00	1.50	BDL	1.40	700.00
1,2-Dichloroethane	BDL	BDL	**27.00**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.38
1,1-Dichloroethene	BDL	BDL	3.90	BDL	1.93	BDL	BDL	1.70	BDL	BDL	BDL	7.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	4.80	1.40	3.73	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	**10.90**	BDL	**50.00**	BDL	**58.90**	**16.30**	**10.90**	**8.10**	**2.30**	BDL	**3.80**	0.02
Chloroethane	BDL	BDL	**50.00**	BDL	**59.00**	**9.50**	BDL	**1.30**	BDL	BDL	BDL	1.00
Total CVOCs	59.00	0.00	135.70	99.30	194.86	31.60	21.50	23.10	3.80	0.00	5.20	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-19

Constituent	Date								2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	15.00

MW-20S

Constituent	Date						2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/14/96 (2)	
Benzene	**15.00**	**64.40**	**44.00**	**71.80**	**64.40**	**64.90**	1.00
Toluene	1.80	9.50	6.20	BDL	26.00	2.40	1000.00
Ethylbenzene	BDL	16.38	7.00	14.60	25.30	5.90	29.00
Xylenes	BDL	21.00	16.70	20.60	80.70	17.00	530.00
Naphthalene	BDL	3.84	3.29	4.90	BDL	4.50	21.00
MTBE	7.30	BDL	BDL	BDL	9.69	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	70.00
IPE	14.20	NA	NA	NA	**50.00**	NA	0.07
Total VOCs	38.30	115.12	77.19	111.90	256.09	94.70	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-20D

Constituent	Date											2L Standard
	9/9/1993 (1)	8/31/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/15/96 (2)	10/11/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	**15.00**	**30.00**	**22.00**	**29.80**	**30.30**	**20.00**	**21.60**	**16.00**	**13.00**	**12.30**	**1.80**	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.10	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	3.40	BDL	BDL	BDL	21.00
MTBE	6.20	NA	NA	NA	BDL	NA	NA	5.70	4.30	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	14.20	NA	NA	NA	**26.60**	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	35.40	30.00	22.00	29.80	56.90	20.00	21.60	26.20	17.30	12.30	1.80	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	8.00	BDL	5.20	5.47	4.00	BDL	BDL	BDL	1.10	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	**4.30**	BDL	**1.70**	**3.20**	**3.00**	BDL	0.02
Total CVOCs	0.00	8.00	0.00	5.20	5.47	8.30	0.00	1.70	3.20	4.10	0.00	
Lead	<0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-21

Constituent	Date					2L Standard
	9/9/1993 (1)	8/30/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	3/15/96 (2)	
Benzene	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	200.00
EDB	BDL	NA	NA	NA	NA	70.00
IPE	BDL	NA	NA	NA	NA	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	
Lead	<0.05	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-22

Constituent	Date											2L Standard
	4/28/1994 (1)	8/30/1994 (2)	1/25/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999	
Benzene	**9.40**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	**8.00**	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	17.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-23

Constituent	Date											2L Standard
	4/28/1994 (1)	8/30/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/30/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	**21.00**	**68.40**	**36.00**	**67.90**	**58.90**	**56.40**	**69.70**	**42.00**	**23.00**	**37.10**	**14.3**	1.00
Toluene	BDL	13.00	BDL	14.50	18.60	9.90	4.52	BDL	6.70	7.50	1.9	1000.00
Ethylbenzene	BDL	**46.50**	14.00	**40.40**	**30.70**	14.90	11.30	BDL	9.60	19.10	2.3	29.00
Xylenes	BDL	100.00	40.00	95.30	77.30	24.70	35.50	41.00	40.00	39.60	18	530.00
Naphthalene	BDL	**33.70**	**42.50**	**42.90**	19.10	**32.00**	11.70	BDL	9.10	12.00	BDL	21.00
MTBE	BDL	NA	NA	NA	BDL	BDL	BDL	BDL	5.40	BDL	8.8	200.00
EDB	BDL	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	15.00	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	36.00	216.60	132.50	261.00	204.60	137.90	132.72	83.00	93.80	115.30	45.30	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
1,2-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**1.30**	BDL	0.38
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.30	0.00	
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

MW-24

Constituent	Date										2L Standard
	4/28/1994 (1)	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	3/15/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**2.60**	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	6.00	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.80	BDL	BDL	530.00
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	BDL	NA	NA	NA	NA	NA	1.20	1.80	BDL	BDL	200.00
EDB	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	70.00
IPE	BDL	NA	NA	NA	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	0.00	0.00	0.00	0.00	1.20	15.20	0.00	0.00	
1,1-Dichloroethane	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
Trichloroethene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	70.00
Vinyl Chloride	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	0.00	0.00	0.00	2.40	0.00	0.00	0.00	
Lead	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

MW-25

Constituent	Date										2L Standard
	8/30/1994 (2)	1/31/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/14/96 (2)	10/9/96 (2)	12/2/1997 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	336.00	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	BDL	2.20	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00
EDB	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	70.00
IPE	NA	NA	NA	BDL	NA	NA	NA	NA	BDL	BDL	0.07
Total VOCs	0.00	0.00	2.20	336.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	**840.00**	690.00	632.00	**1,100.00**	262.00	259.00	350.00	240.00	282.00	185.00	700.00
1,2-Dichloroethane	BDL	BDL	BDL	BDL	7.60	BDL	**7.50**	BDL	**1.30**	**2.00**	0.38
1,1-Dichloroethene	BDL	770.00	**708.00**	**1,270.00**	**618.00**	**501.00**	**390.00**	**340.00**	**204.00**	**280.00**	7.00
Trichloroethene	**280.00**	**125.00**	**267.00**	**232.00**	**152.00**	**206.00**	**81.00**	BDL	**98.00**	**110.00**	2.80
1,1,1-Trichloroethane	BDL	**1,710.00**	**2,709.00**	**3,920.00**	**1,440.00**	**2,080.00**	**620.00**	**1,000.00**	**358.00**	**725.00**	200.00
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	**3.70**	**6.60**	BDL	BDL	**2.20**	1.00
Trichlorofluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	5.20	BDL	BDL	BDL	2100.00
Tetracholorethene	BDL	BDL	BDL	BDL	BDL	BDL	**1.40**	BDL	BDL	**2.50**	0.70
cis-,1,2-Dichloroethylene	**330.00**	**470.00**	**319.00**	**429.00**	**164.00**	BDL	BDL	BDL	**151.00**	32.00	70.00
Vinyl Chloride	BDL	BDL	BDL	**126.00**	**85.60**	**48.90**	BDL	**30.00**	BDL	**33.20**	0.02
Chloroethane	BDL	BDL	BDL	BDL	BDL	**8.74**	**4.30**	BDL	BDL	8.20	2800.00
Carbon Tetrachloride	BDL	BDL	BDL	BDL	**192.00**	BDL	BDL	BDL	BDL	BDL	0.30
1,1,2,2 Tetrachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00	1.00
Total CVOCs	1,450.00	3,765.00	4,635.00	7,077.00	2,921.20	3,107.34	1,466.00	1,610.00	1,094.30	1,381.10	
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA		15.00

Table 4. Historical Ground Water Laboratory Analytical Data - thru December 1999
Nello Teer Quarry Site

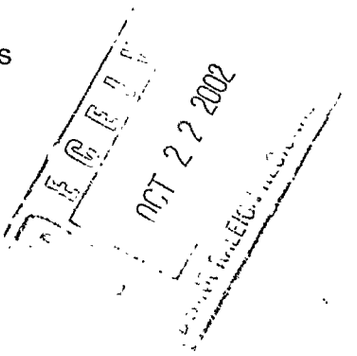
MW-26

Constituent	Date										2L Standard
	8/29/1994 (2)	1/26/1995 (2)	4/27/1995 (2)	8/29/95 (2)	3/13/96 (2)	10/9/96 (2)	12/2/97 (3)	5/13/98 (3)	6/17/99 (4)	12/10/1999 (4)	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.00
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	29.00
Xylenes	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	530.00
Naphthalene	BDL	**42.50**	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	21.00
MTBE	NA	NA	NA	BDL	NA	NA	BDL	BDL	BDL	BDL	200.00
EDB	NA	NA	NA	BDL	NA	NA	BDL	NA	BDL	BDL	70.00
IPE	NA	NA	NA	BDL	NA	NA	BDL	NA	BDL	BDL	0.07
Total VOCs	0.00	42.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,1-Dichloroethane	BDL	100.00	109.00	85.40	BDL	54.30	13.00	5.60	3.60	2.40	700.00
1,1-Dichloroethene	BDL	BDL	**8.10**	**10.70**	**13.60**	**7.17**	5.20	3.60	4.20	5.10	7.00
Trichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
cis-,1,2-Dichloroethylene	BDL	BDL	4.90	5.83	8.30	BDL	BDL	BDL	5.80	5.80	70.00
Vinyl Chloride	**29.50**	BDL	BDL	**44.80**	**56.60**	**20.10**	**12.00**	**6.90**	**7.00**	**6.00**	0.02
Total CVOCs	29.50	100.00	122.00	146.73	78.50	81.57	30.20	16.10	20.60	19.30	
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.00

Quantum Environmental, Inc.

October 21, 2002

Mr. Mark Pritzl
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
1636 Mail Service Center
Raleigh, N.C. 27699-1636



Re: Nello Teer Quarry, Denfield Street, Durham, NC
Injection Well Permit Application for HRC® Event
Groundwater Incident No. 9357

Dear Mr. Pritzl:

As requested in a recent telephone conversation, Quantum Environmental, Inc. (Quantum) is submitting the required information in support of our application to conduct an injection of HRC® at the above-referenced site.

On September 30,2002, a Type III monitoring well (MW-28D) was completed approximately 30 feet northwest of MW-25 (see enclosed figure). Stainless steel surface casing was installed to a depth of 40 feet, and air drilling was used to advance the boring until water was reached in the underlying bedrock. Water was encountered at a depth of approximately 84 feet and drilling was terminated at 90 feet. The groundwater in the open-hole well was subsequently sampled according to established protocols and analyzed using EPA Methods 601, 602, and 610. No parameters were present at concentrations above their respective 2L Groundwater Standards. A copy of the laboratory results and chain-of-custody is enclosed. Subsequently, the well was finished with 10 feet of two-inch Schedule 40 PVC screen from 80 to 90 feet, and Schedule 40 PVC riser to the surface.

The results of the sampling of MW-28D are adequate to delineate the vertical extent of groundwater contamination in this area. The horizontal extent of the five chlorinated solvents present at the site in concentrations above their respective 2L standards are shown on the enclosed figure.

Additional monitoring wells were installed as previously proposed to monitor the results of the planned HRC® injection event. The proposed down-gradient monitoring wells were not installed in an effort to reduce costs, and monitoring wells MW-1 and MW-7 will be used instead.

Quantum has also enclosed historical shallow aquifer and deep aquifer potentiometric maps for the site as requested.

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

At this time, Quantum should have provided all required information for the Injection Well Permit Application. If any additional information is needed, or if you have any questions regarding this matter please contact me at (919) 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, L.G.
Project Hydrogeologist

L02-256

cc: Mr. Steve Edgerton, L.G., Hanson Aggregates
Mr. Eric Rice, DENR, Groundwater Section, RRO

Table 1. **Well and Water Level Data**
September 2002 Sampling Event
Nello Teer Quarry, Denfield St.
Durham, North Carolina

Well #	Top of Casing Elevation[a]	Screen Interval[b]	Depth to Water[c]	Water Table Elevation[a]	Purge Volume (Gallons)
MW-1	329.5	20.0 - 35.0	24.67	304.83	19.5
MW-7	329.26	9.0 - 14.0	13.51	315.75	1
MW-9	333.65	25.0 - 40.0	32.60	301.05	4
MW-11	327.87	35.0 - 50.0	41.20	286.67	6
MW-13	326.48	50.0 - 65.0	32.20	294.28	20
MW-15I	329.53	25.0 - 40.5	30.43	299.10	6
MW-17	327.59	2.5 - 12.5	6.12	321.47	3
MW-18	328.43	3.0 - 13.0	6.76	321.67	2
MW-20D	329.58	110.0 - 115.0	35.59	293.99	40
MW-23	331.87	25.0 - 47.0	33.80	298.07	7
MW-25	328.92	4.0 - 14.0	7.93	320.99	3
MW-26	328.92	3.0 - 13.0	6.93	321.99	3

[a] surveyed elevation, referenced to mean sea level
[b] feet below land surface
[c] feet below top of casing

ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Tom Davis
Quantum Environmental Inc.
6001 Chapel Hill Road, Suite 108
Raleigh, NC 27607

October 09,2002

Date Received : October 02, 2002
Description : Teer

ESC Sample # : L91333-04

Site ID :

Sample ID : MW 28 D 90 FT

Project # : 0013-94-012

Collected By : Tom Davis
Collection Date : 10/01/02 14:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Volatile Organics						
Benzene	BDL	1.0	ug/l	601/602MS	10/05/02	1
Bromodichloromethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
Bromoform	BDL	1.0	ug/l	601/602MS	10/05/02	1
Bromomethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
Carbon Tetrachloride	BDL	1.0	ug/l	601/602MS	10/05/02	1
Chlorobenzene	BDL	1.0	ug/l	601/602MS	10/05/02	1
Chlorodibromomethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
Chloroethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
2-Chloroethyl vinyl ether	BDL	50.	ug/l	601/602MS	10/05/02	1
Chloroform	BDL	1.0	ug/l	601/602MS	10/05/02	1
Chloromethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,2-Dibromoethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,2-Dichlorobenzene	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,3-Dichlorobenzene	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,4-Dichlorobenzene	BDL	1.0	ug/l	601/602MS	10/05/02	1
Dichlorodifluoromethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,1-Dichloroethane	9.7	1.0	ug/l	601/602MS	10/05/02	1
1,2-Dichloroethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,1-Dichloroethene	5.5	1.0	ug/l	601/602MS	10/05/02	1
trans-1,2-Dichloroethene	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,2-Dichloropropane	BDL	1.0	ug/l	601/602MS	10/05/02	1
cis-1,3-Dichloropropene	BDL	1.0	ug/l	601/602MS	10/05/02	1
trans-1,3-Dichloropropene	BDL	1.0	ug/l	601/602MS	10/05/02	1
Di-isopropyl ether	BDL	5.0	ug/l	601/602MS	10/05/02	1
Ethylbenzene	BDL	1.0	ug/l	601/602MS	10/05/02	1
Methylene chloride	BDL	5.0	ug/l	601/602MS	10/05/02	1
Methyl tert-butyl ether	BDL	5.0	ug/l	601/602MS	10/05/02	1
1,1,2,2-Tetrachloroethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
Tetrachloroethene	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,1,1-Trichloroethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
1,1,2-Trichloroethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
Trichloroethene	1.3	1.0	ug/l	601/602MS	10/05/02	1
Trichlorofluoromethane	BDL	1.0	ug/l	601/602MS	10/05/02	1
Toluene	5.3	5.0	ug/l	601/602MS	10/05/02	1
Vinyl chloride	BDL	1.0	ug/l	601/602MS	10/05/02	1
o-Xylene	BDL	1.0	ug/l	601/602MS	10/05/02	1
m&p-Xylene	BDL	2.0	ug/l	601/602MS	10/05/02	1

Polynuclear Aromatic Hydrocarbons

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Tom Davis
Quantum Environmental Inc.
6001 Chapel Hill Road, Suite 108
Raleigh, NC 27607

October 09,2002

Date Received : October 02, 2002
Description : Teer

ESC Sample # : L91333-04

Sample ID : MW 28 D 90 FT

Site ID :

Project # : 0013-94-012

Collected By : Tom Davis
Collection Date : 10/01/02 14:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Extract Date						
Anthracene	BDL	1.0	ug/l	610MS	10/08/02	1
Acenaphthene	BDL	1.0	ug/l	610MS	10/08/02	1
Acenaphthylene	BDL	1.0	ug/l	610MS	10/08/02	1
Benzo(a)anthracene	BDL	1.0	ug/l	610MS	10/08/02	1
Benzo(a)pyrene	BDL	1.0	ug/l	610MS	10/08/02	1
Benzo(b)fluoranthene	BDL	1.0	ug/l	610MS	10/08/02	1
Benzo(g,h,i)perylene	BDL	1.0	ug/l	610MS	10/08/02	1
Benzo(k)fluoranthene	BDL	1.0	ug/l	610MS	10/08/02	1
Chrysene	BDL	1.0	ug/l	610MS	10/08/02	1
Dibenz(a,h)anthracene	BDL	1.0	ug/l	610MS	10/08/02	1
Fluoranthene	BDL	1.0	ug/l	610MS	10/08/02	1
Fluorene	BDL	1.0	ug/l	610MS	10/08/02	1
Indeno(1,2,3-cd)pyrene	BDL	1.0	ug/l	610MS	10/08/02	1
1-Methylnaphthalene	BDL	1.0	ug/l	610MS	10/08/02	1
2-Methylnaphthalene	BDL	1.0	ug/l	610MS	10/08/02	1
Naphthalene	BDL	1.0	ug/l	610MS	10/08/02	1
Phenanthrene	BDL	1.0	ug/l	610MS	10/08/02	1
Pyrene	BDL	1.0	ug/l	610MS	10/08/02	1

Cheli Boucher
Cheli Boucher, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
The reported analytical results relate only to the sample submitted.

Company Name/Address:
Quantum Environmental
6001 Chapel Hill Rd. #108
Raleigh NC 27607

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody Page 1 of 1

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: Tom Davis

Email to:

Project Description: Teer

City/State Collected: NC

Phone: 919-852-3595
FAX: 852-1997

Client Project #: 2013-94-012

ESC Key:

Collected by: Tom Davis

Site/Facility ID#: —

P.O.#:

Collected by (signature):

Packed on Ice N (Y)

Rush? (Lab MUST Be Notified)
____ Same Day. 200%
____ Next Day. 100%
____ Two Day 50%

Date Results Needed:

Email? __No__Yes
FAX? __No__Yes

CoCode (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	8260B	601/602/610	Remarks/Contaminant	Sample # (lab only)
~~MW-28D - Dup.~~		~~SS~~								L91333-01
29-5	Grab	SS	5'	9/30/02	1207	4	X			-01
25-5	"	"	"	"	1330	4	X			-02
28D-5	"	"	"	"	1353	4	X			-03
MW28S	"	GW	90'	10/1/02	1400	4		X		-04

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____

Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☑ FedEx ☐ Courier ☐	Condition: (lab use only)
	10/1/02	1830			
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 4° / Bottles Received: 16	OK
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10/2/02 / Time: 11:45	pH Checked: / NCF:

N

QUARRY
PIT

APPROXIMATE
LOCATION OF FORMER.
ASPHALT PLANT

MW-18
MW-26
MW-28D
MW-25
MW-13
RW-6
RW-9
RW-5
MW-11
RW-7
MW-17
MW-7
MW-1
APPROXIMATE
LOCATION OF
FORMER TANKS
WASTE
OIL
TRUCK
SHOP
ELECTRICAL
SHOP
RW-1
MW-20D
RW-4
MW-15I
RW-3
RW-8
RW-2
MW-23
SCALE
HOUSE
MW-9
OFFICE
DENFIELD STREET
FORMER SERVICE
STATION

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION

SEPTEMBER 2002 SAMPLING EVENT

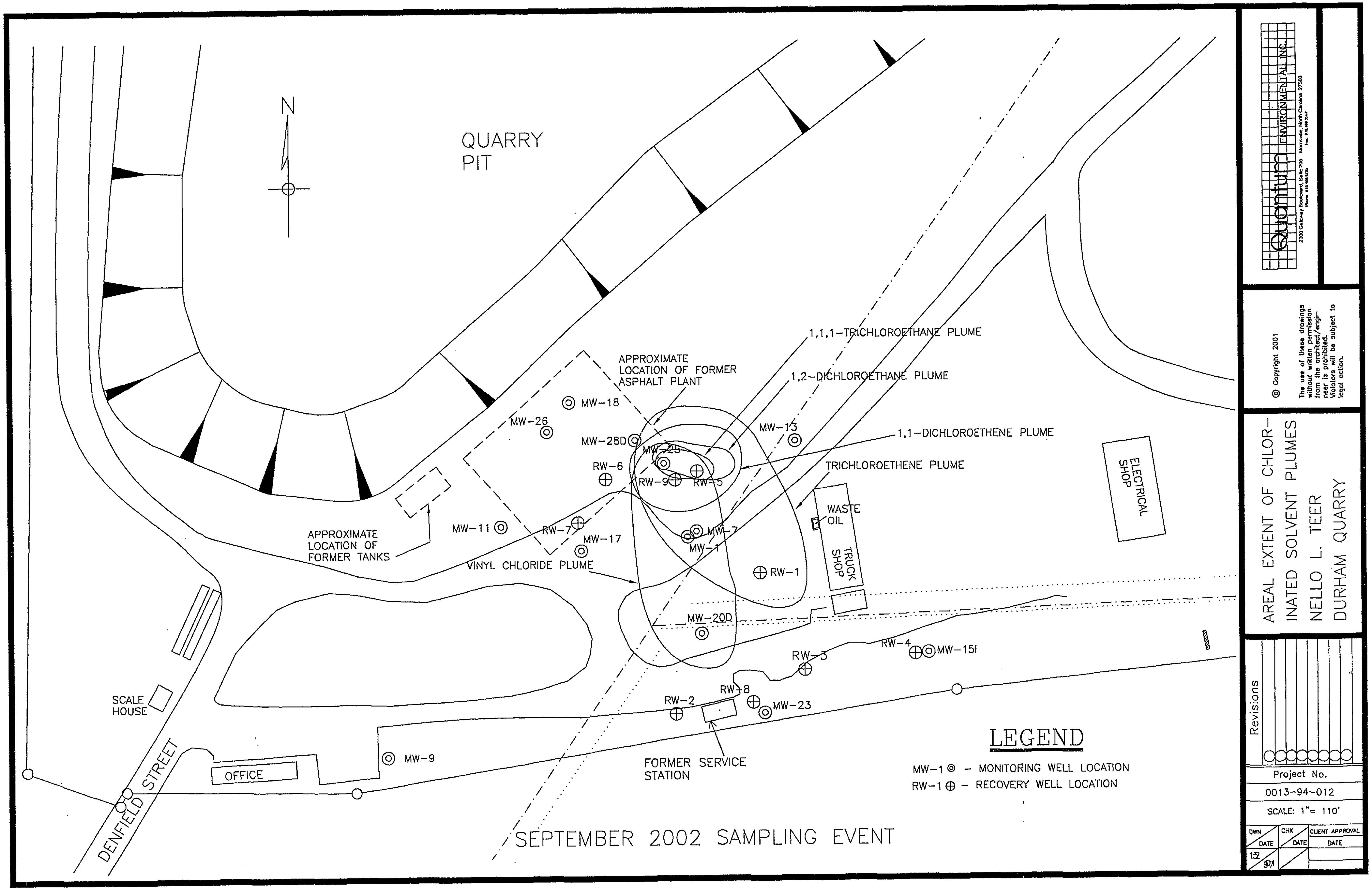
Quantum ENVIRONMENTAL INC.
2220 Gateway Boulevard, Suite 205 Morrisville, North Carolina 27560

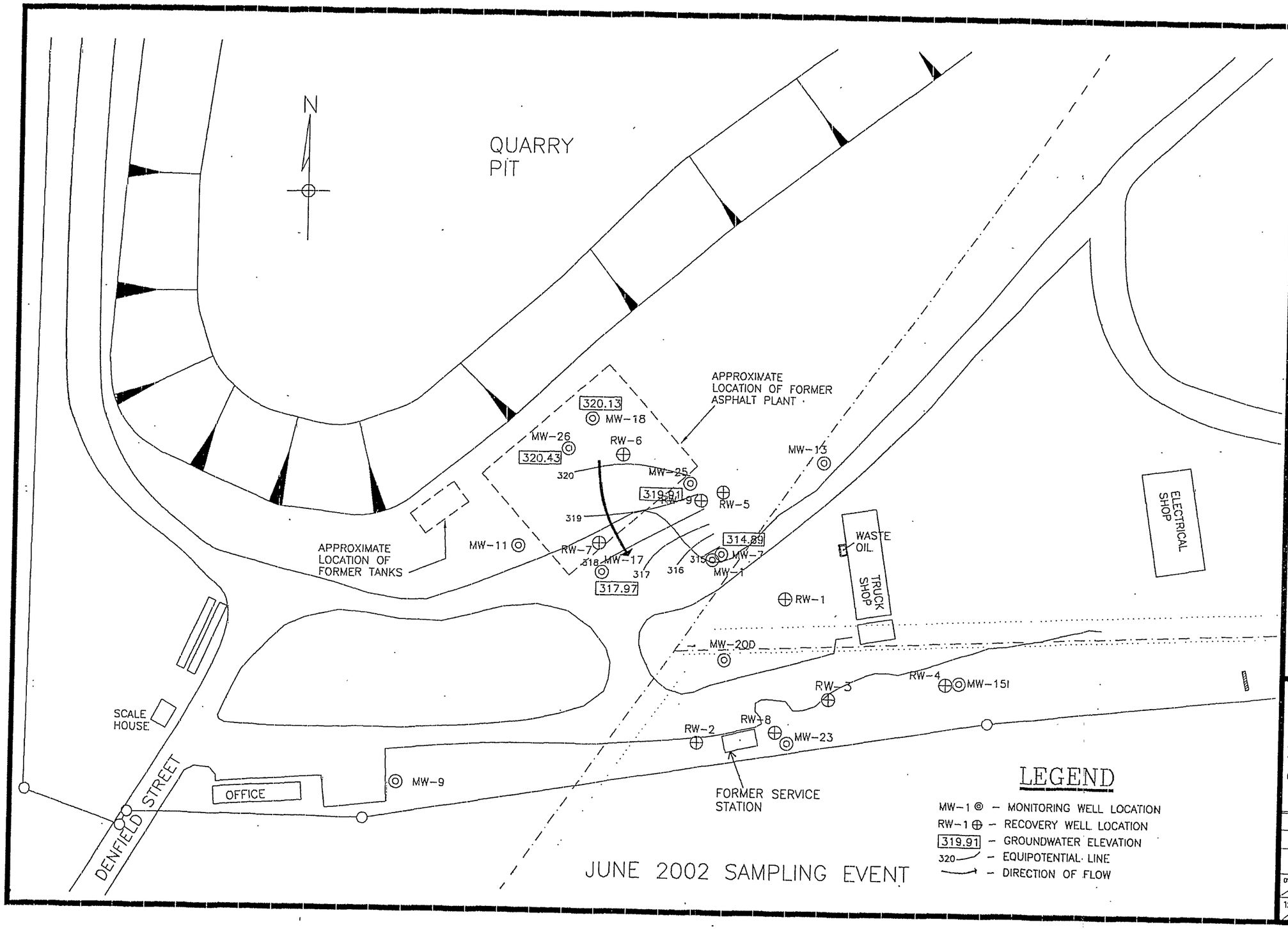
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012
SCALE: 1"= 110'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
152 / 9/01		


N
QUARRY PIT
APPROXIMATE LOCATION OF FORMER ASPHALT PLANT
1,1,1-TRICHLOROETHANE PLUME
1,2-DICHLOROETHANE PLUME
1,1-DICHLOROETHENE PLUME
TRICHLOROETHENE PLUME
VINYL CHLORIDE PLUME
MW-18
MW-26
MW-28D
MW-25
MW-13
RW-6
RW-9
RW-5
MW-11
RW-7
MW-17
MW-7
MW-1
RW-1
MW-20D
RW-3
RW-4
MW-15I
RW-8
RW-2
MW-23
MW-9
APPROXIMATE LOCATION OF FORMER TANKS
WASTE OIL
TRUCK SHOP
ELECTRICAL SHOP
SCALE HOUSE
OFFICE
DENFIELD STREET
FORMER SERVICE STATION
LEGEND
MW-1 ◎ - MONITORING WELL LOCATION
RW-1 ⊕ - RECOVERY WELL LOCATION
SEPTEMBER 2002 SAMPLING EVENT
Quantum ENVIRONMENTAL INC.
© Copyright 2001
The use of these drawings without written permission from the architect/engineer is prohibited. Violators will be subject to legal action.
AREAL EXTENT OF CHLORINATED SOLVENT PLUMES
NELLO L. TEER
DURHAM QUARRY
Revisions
Project No.
0013-94-012
SCALE: 1"= 110'
DWN DATE
CHK DATE
CLIENT APPROVAL DATE



Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Street, Suite 108
Raleigh, North Carolina 27607
Phone: 919.852.3595 Fax: 919.852.1997

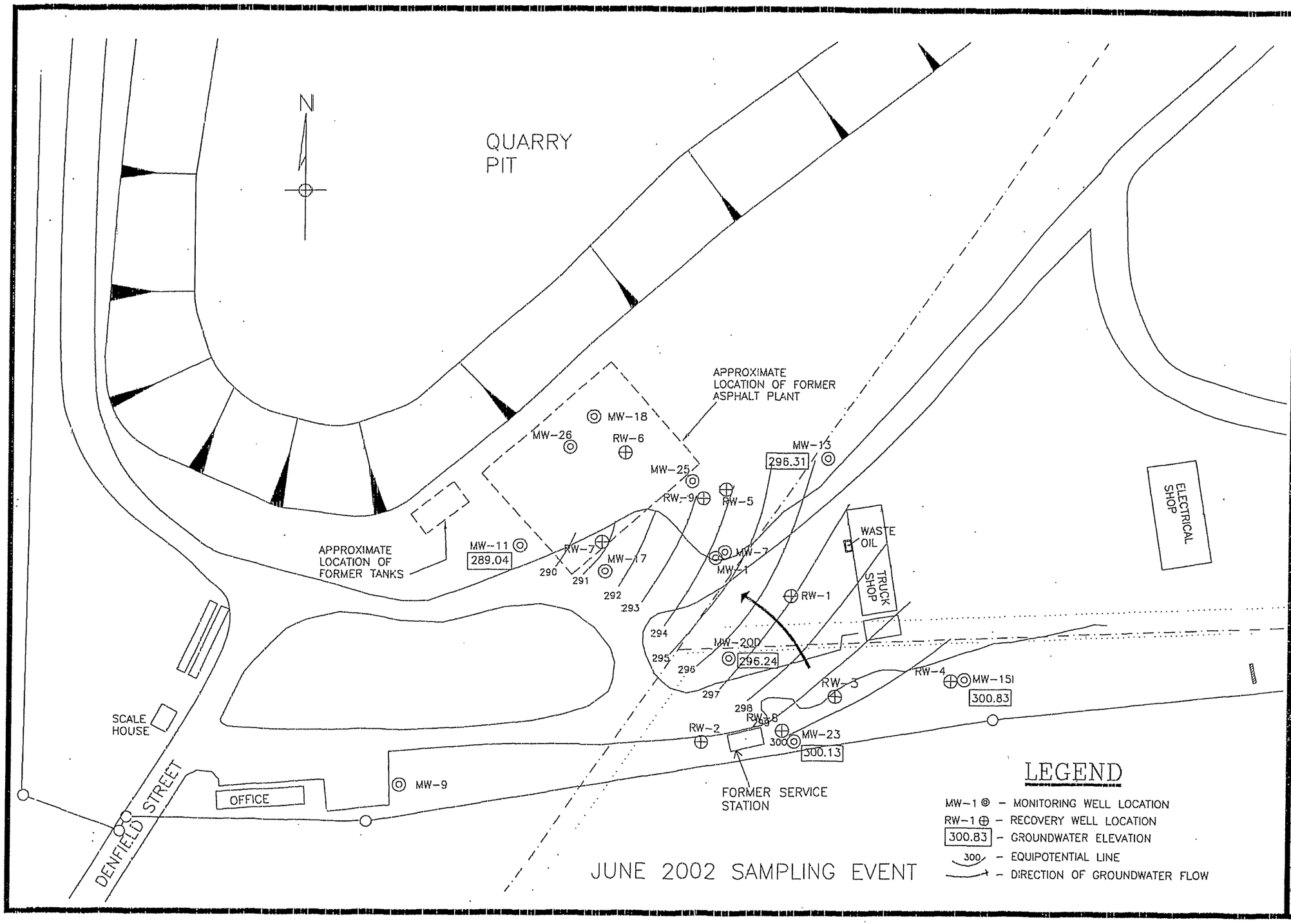
FIGURE 3

SHALLOW AQUIFER POTENTIOMETRIC MAP
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012
SCALE: 1"= 110'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
12/		



Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Street, Suite 108
Raleigh, North Carolina 27607
Phone: 919.852.3595 Fax: 919.852.1997

FIGURE 4

DEEP AQUIFER
POTENTIOMETRIC MAP
NELLO L. TEER
DURHAM QUARRY

Revisions

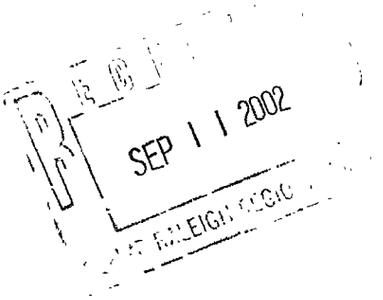
Project No.
0013-94-012
SCALE: 1"= 110'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
12 9/1		

Quantum Environmental, Inc.

September 10, 2002

Mr. Mark Pritzl
North Carolina Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section
1636 Mail Service Center
Raleigh, N.C. 27699-1636



Re: Nello Teer Quarry, Denfield Street, Durham, NC
Injection Well Permit Application for HRC® Event
Groundwater Incident No. 9357

Dear Mr. Pritzl:

As requested in your letter of May 1, 2002 Quantum Environmental, Inc. (Quantum) is submitting the required information regarding the proposed injection of HRC® at the above-referenced site.

The enclosed figure depicts most of the information required, including the locations of supply wells, the groundwater remediation system currently operating at the site, as well as the location of an aboveground storage tank (AST) system operated by Hanson Aggregates.

Quantum is currently selecting a drilling contractor to install a deep Type III monitoring well in the vicinity of monitoring well MW-25 to delineate the vertical extent of the solvent contamination. In addition, Quantum is planning to install a set of nested wells to the northwest as well as to the southeast of MW-25 to aid in the monitoring of aquifer conditions following the injection event. These wells will be screened from 5 to 15 feet and from 18 to 33 feet. Quantum will submit the results of this drilling to your office following the completion of drilling.

Finally, Quantum will perform the following monitoring program to track the changes in the subsurface as a result of the HRC® injection event. Before the event is conducted, Quantum will sample MW-25, the four new shallow monitoring wells, MW-18 and MW-13. MW-18 is upgradient of the proposed treatment area, MW-13 is downgradient of the proposed treatment area, and MW-25 and the four new shallow monitoring wells will be within the treatment area.

These wells will be sampled and analyzed for the following parameters: 601, dissolved oxygen, ORP, pH, temperature, ferrous iron, dissolved iron and manganese, nitrate,

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

sulfate, sulfide, chloride, alkalinity, total organic carbon, metabolic acids (lactic, pyruvic, acetic, priopionic and butyric), and dissolved carbon dioxide, methane, ethane and ethene. Quantum may decide to sample only one of each set of nested wells following the initial sampling event in an effort to reduce costs.

The wells will be sampled every other month following the HRC® injection event for a total of six months, after which they will be sampled twice more on a quarterly basis.

If you have any questions regarding this matter please contact me at (919) 852-3595.

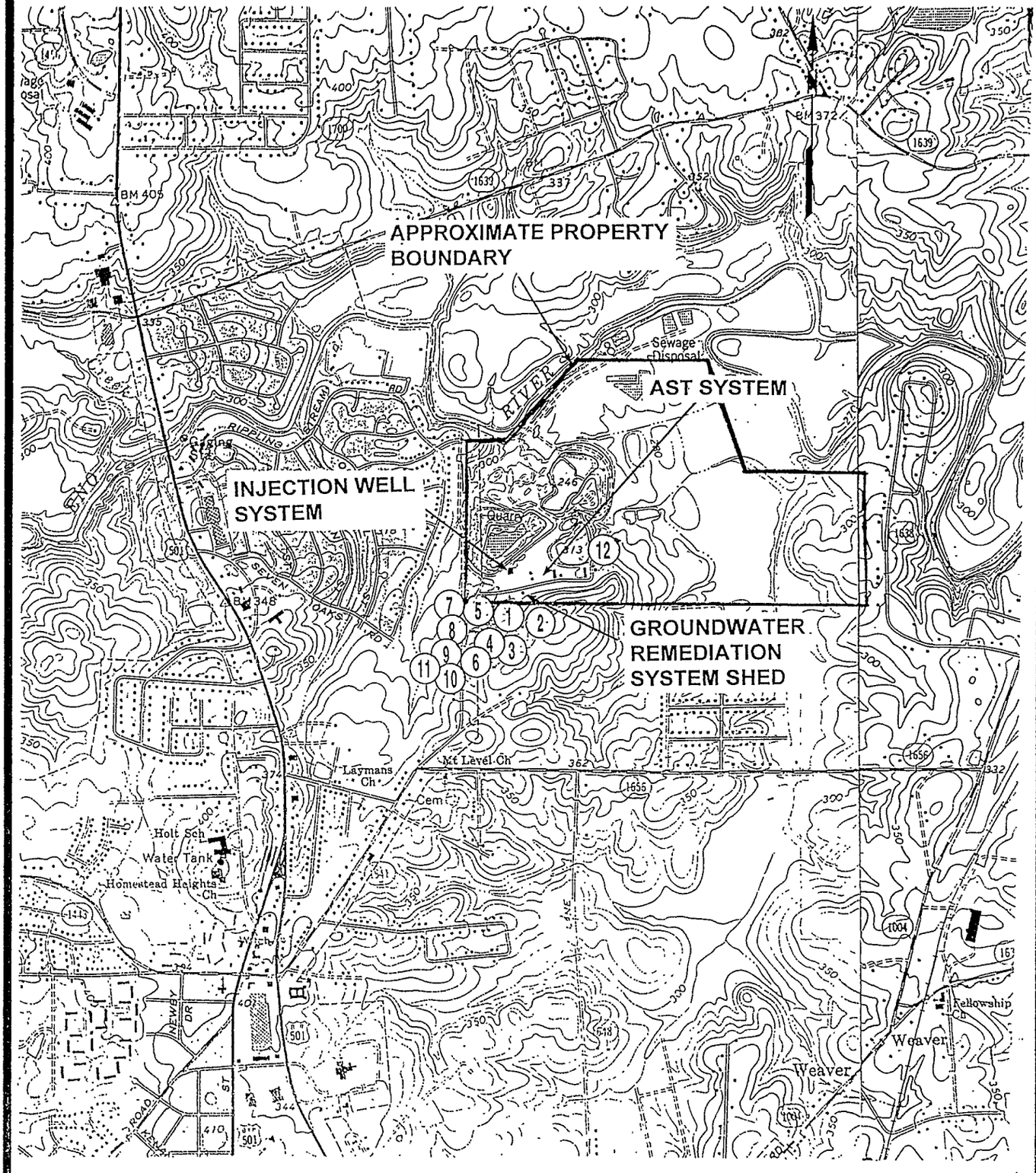
Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, L.G.
Project Hydrogeologist

L02-195

cc: Mr. Steve Edgerton, L.G., Hanson Aggregates
Mr. Eric Rice, DENR, Groundwater Section, RRO



SUPPLY WELL
LOCATION MAP
Nello Teer Quarry
Durham, NC
Northwest Durham Quadrangle

Quantum Environmental, Inc.
6001 Chapel Hill Road, Suite 108
Raleigh, NC 27607
Phone: (919) 852-3595 Fax: (919) 852-1997

FIGURE 1

SCALE: 1" = 2000'

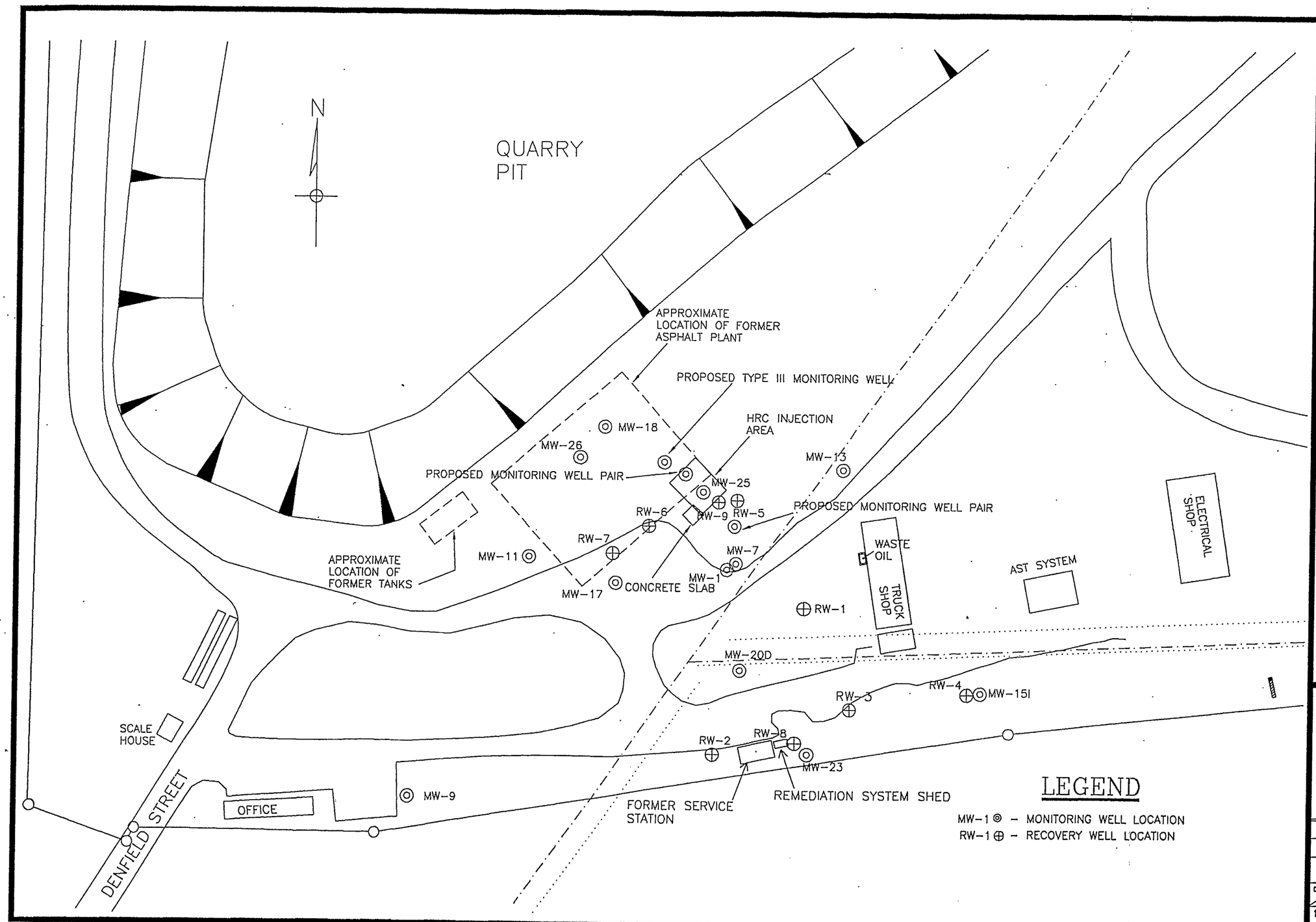
Proj. No.: 0013-94-012

Table 1: Water Supply Well Information

Date: 12/1/01 Incident Number and Name: Nello Teer, Incident No. 9357 Facility ID# n/a

Well #	Well Owner/User	Address	Phone #	Well Use	Well Depth (ft BGS)	Type of Well	Well Casing Depth (ft. BGS	Well Screen Interval (x to y ft. BGS)	Distance from source area of release of (ft.)
1	Mobile Communications	1003 Communications Drive	477-1610	supply	>200	drilled	unk.	unknown	560'
2	Pinnacle Communications	1001 Comm. Drive	941-364-8886	?	?	hand dug?	unk.	unknown	600'
3	D.W. Ward Construction Co.	1006 Comm. Drive	477-0471	supply	?	drilled	unk.	unknown	750'
4	Lee's Welding	1002 Comm. Drive	477-6300	supply	?	drilled	unk.	unknown	800'
5	Mayo Farms	4934 Denfield St.	471-1844	supply	?	drilled	unk.	unknown	790'
6	Proctor Trucking	4918 Denfield St.	477-7594	supply	?	drilled	unk.	unknown	1000'
7	A.L. Derr	4921 Denfield St.	unknown	septic only	50'	drilled	unk.	unknown	925'
8	Julius Bartell	4911 Denfield St.	unknown	septic only	>50'	drilled	unk.	unknown	1000'
9	Church of God	4907 Denfield St.	unknown	supply	unknown	unknown	unk.	unknown	1100'
10	Cynthia White	4901 Denfield St.	unknown	supply	unknown	unknown	unk.	unknown	1200'
11	Betty Wright	4811 Denfield St.	unknown	supply	unknown	unknown	unk.	unknown	1300'
12	Hanson Aggregates	5033 Denfield St.	unknown	septic only	>300'	drilled	unk.	unknown	1200'

Note: Well listed as No. 2 is only rumored to exist.



Equinox ENVIRONMENTAL INC.
2700 Coltsway Blvd.Summit, Suite 205 Morrisville, North Carolina 27560
Phone: 919 469 3340 Fax: 919 469 3300

PROPOSED HRC
INJECTION AREA
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012

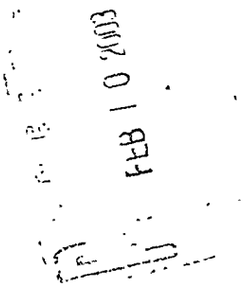
SCALE: 1"= 110'

DWN DATE	CHK DATE	CLIENT APPROVAL DATE
12 01		

Copy of permit in injection well files

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
February 7, 2003

MEMORANDUM



To: Jay Zimmerman, L.G., Regional Groundwater Supervisor
Groundwater Section
Raleigh Regional Office

From: MP. Mark Pritzl *Mark.Pritzl@ncmail.net*
Hydrogeological Technician II
UIC Group
Groundwater Section
Raleigh Central Office

Re: issuance of injection well permit type 5I (in-situ Groundwater Remediation Well)

Permit Number WI0500046 is for the injection of an HRC slurry to enhance reductive dehalogenation/dechlorination of the dissolved chlorinated solvent contamination at 5013 Denfield Street, Durham. **Please retain the application paper work and permit copy for the RRO-UIC files.** The UIC Program wishes to thank **Eric Rice** with the review and inspection tasks. If you have any questions regarding this letter or the UIC program, please contact me at (919) 715-6166.

cc: CO-UIC Files
Enclosures

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Alan W. Klimek, P. E. Director
Division of Water Quality
Coleen H. Sullins, Deputy Director
Division of Water Quality

GROUNDWATER SECTION
July 9, 2004

Thomas Davis
Quantum Environmental Inc.
6001 Chapel Hill Road Suite 108
Raleigh, NC 27607

Subject: Nello Teer
Denfield Street
Durham, N.C.- Durham County
GW Incident # 9357
Site Rank: 110B

Dear Mr. Davis:

On May 27, 2004, this office received a letter from Quantum Environmental Inc., on the behalf of Hanson Aggregates Southeast Inc., concerning a request to change the corrective action for the chlorinated solvent plume at the above listed address from the current active treatment method (groundwater recovery and treatment) to natural attenuation.

Before this site can change to a natural attenuation Corrective Action Plan (CAP), it must be documented that the conditions as listed in 15A NCAC 2L .0106 (l) can be met. If any of the conditions can not be met then you must continue with the current corrective action or implement an alternate active corrective action that meets the rules. Any change in corrective action will require the submittal of a CAP addendum. If this site qualifies for a natural attenuation CAP, then submit to this office a CAP addendum addressing the requirements of 15A NCAC 2L .0106 and follow the CAP format in the Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, July 2000. Include with the CAP a cover letter requesting that the Groundwater Section disregard the former CAP and consider the most recent CAP (addendum) for review.

The Groundwater Section is currently collecting data to determine if the North Carolina Department of Transportation (NCDOT) is responsible for the chlorinated solvent contamination at the above listed address. The Section will keep Hanson Aggregates Southeast Inc. appraised of any changes to responsibility. Please note that if the NCDOT is deemed the responsible party for the chlorinated solvent contamination, Hanson Aggregates will still be considered a responsible party because Hanson Aggregates is the owner of the land on which the plume is located.

If you have any questions please contact Eric Rice at (919) 571-4700.

Sincerely,

S. Jay Zimmerman, L.G.
Environmental Regional Supervisor
Raleigh Regional Office

c: file/esr
Steve Egerton, Hanson Aggregates Southeast Inc., 2300 Gateway Centre Blvd.
Morrisville, N.C. 27560

Quantum Environmental, Inc.

May 25, 2004

Mr. Eric Rice
North Carolina Department of Environment and Natural Resources
Division of Water Quality-Groundwater Section
1628 Mail Service Center
Raleigh, North Carolina 27699

RE: Request for Approval of Proposed NPDES Permit Modification
NPDES Permit NC0085243
Hanson Aggregates Durham Quarry
Durham County
Quantum Project No. 0013-94-012

Dear Mr. Rice:

Quantum Environmental, Inc. (Quantum) is submitting this letter on behalf of our client, Hanson Aggregates Southeast, Inc. (Hanson) regarding the above-referenced site.

As you are aware, the petroleum and chlorinated solvent groundwater plumes at the site have been undergoing active groundwater recovery, treatment and discharge under an individual NPDES permit for several years. After considerable review, Quantum has concluded that the most expedient and cost-effective means of continuing remediation of the petroleum plume at the site is via active groundwater recovery as well as through the operation of a vapor extraction system (VES) that was installed at the site in 2003. In addition, Quantum believes that the most cost-effective means of remediating the solvent contaminated groundwater at the site is through natural attenuation. Quantum is currently awaiting determination of the responsible party for the solvent plume prior to resuming preparation of the Corrective Action Plan for the solvent plume to address this issue.

In order to facilitate the goal of remediating the petroleum contaminated groundwater, Quantum proposes to initiate limited groundwater recovery using only three of the groundwater recovery wells present at the site (RW-3, RW-8 and RW-10) as shown in the attached figure. Recovered groundwater would be treated using the existing groundwater treatment system. To reduce the cost of operating the system, we would like to discharge the system effluent under a general NPDES permit instead of under the existing individual permit. At this time, it is our understanding that Mr. Kirk Stafford of the Division of Water Quality-Water Quality Section needs your agreement with the implementation of the plan described above in order for the Water Quality Section to proceed with the modification of the existing individual NPDES permit to a general permit.

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

In support of this request please find enclosed copies of tables documenting the latest analytical results for the recovery wells that we are proposing to continue operating. Please note that no chlorinated solvent residuals have ever been detected in either RW-8 or RW-10, and no chlorinated solvent residuals have been detected in RW-3 since June 2001, other than the chloroform reported for the October 20, 2003 sampling event. The chloroform concentrations reported for RW-3 and RW-8 during the October 2003 sampling event are expected to be the result of laboratory contamination since this compound was never previously detected in any of the monitoring or recovery wells at the site but was reported to be present in five recovery wells at the site in addition to two monitoring wells during the October 2003 sampling event. In addition, no chloroform was detected in any of the monitoring or recovery wells sampled during the April 2004 sampling event.

Operation of RW-10 is needed to facilitate the function of the recently installed VES in the area of the former UST pit. Since the installation of the VES last year, this system has not operated due to a rise in the shallow water table in this area. The water table must be lowered prior to initiating operation of the VES. Thus, resuming operation of the groundwater recovery system is vital to remediating petroleum contaminated soil at the site in addition to the petroleum contaminated groundwater.

Given that operation of the system as discussed herein constitutes a petroleum-contaminated groundwater remediation system only, Quantum requests your agreement with this approach so that we can resume limited operation of the groundwater remediation system at the Teer site. As a precaution, Quantum has offered to monitor the system influent for evidence of chlorinated solvents periodically.

If you have any questions regarding this matter, please contact me at (919) 852-3595. Thank you for your assistance.

Sincerely,

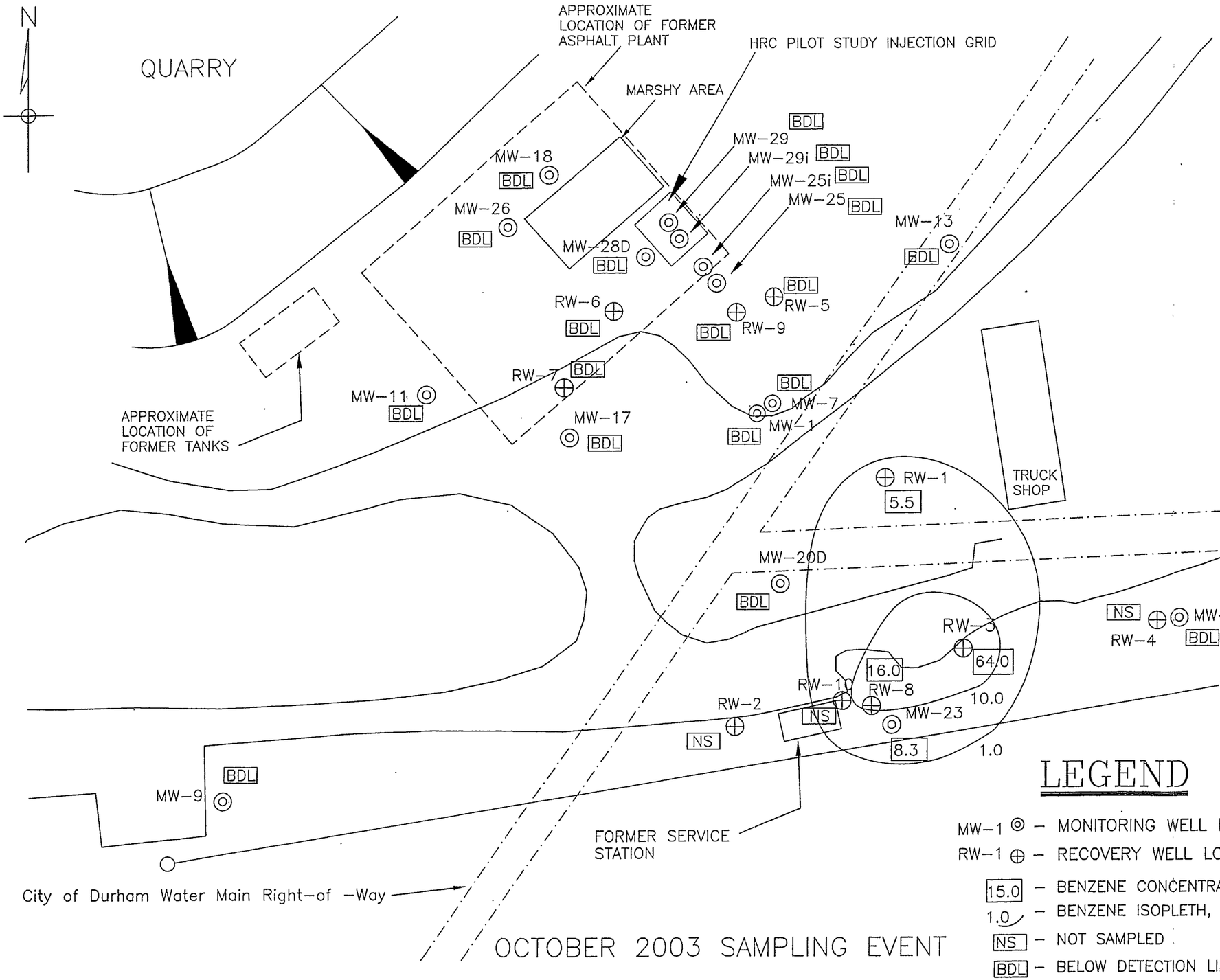
QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, L. G.
Project Hydrogeologist

cc: Mr. Steve Edgerton, Hanson w/o attachments
Mr. Mark Powers, DENR, RRO-UST Section
Mr. Kirk Stafford, DENR, DWQ, RRO-Water Quality Section
Mr. Ken Schuster, DENR, DWQ, RRO-Water Quality Section
Mr. Tom Belnick, DWQ/NPDES Unit/1617 Mail Service Center

L04-129

Enclosure



Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Rd. Suite 108
Raleigh North Carolina 27607
Phone: (919) 852-3595 Fax: (919)852-1997

FIGURE 3

OCTOBER 2003
BENZENE PLUME
NELLO L. TEER
DURHAM QUARRY

Revisions

Project No.
0013-94-012

SCALE: 1"= 75'

DWN / DATE	CHK / DATE	CLIENT APPROVAL / DATE
152 / 9/1		

Table 5: Nello Teer Recovery Well Sampling Results Summary

RW-3

Constituent	Date											2L Standard
	8/29/99	2/25/00	6/14/00	12/7/00	6/15/01	12/28/01	6/4/02	9/12/02	4/15/03	10/20/03	4/26/04	
Benzene	**25.50**	BDL	**7.60**	**9.70**	**16.80**	**10.30**	**13.00**	BDL	BDL	**64.00**	**64.00**	1.00
Toluene	21.50	BDL	3.60	2.90	11.00	2.60	5.90	BDL	BDL	56.00	BDL	1000.00
Ethylbenzene	22.50	BDL	3.30	1.80	19.30	6.10	11.00	BDL	BDL	**64.00**	**47.00**	29.00
Xylenes	270.00	BDL	16.40	13.20	45.20	6.30	20.80	BDL	BDL	137.00	107.00	530.00
Naphthalene	11.00	BDL	8.00	7.00	BDL	**27.40**	NA	6.50	**21.00**	**130.00**	**110.00**	21.00
MTBE	11.50	BDL	BDL	BDL	NS	7.10	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	BDL	BDL	BDL	BDL	BDL	NA	NA	NA	NA	NA	0.0004
IPE	BDL	BDL	BDL	BDL	BDL	NS	12.00	BDL	BDL	38.00	36.00	70.00
Total VOCs	362.00	0.00	38.90	34.60	92.30	59.80	62.70	6.50	21.00	489.00	364.00	
n-Propylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.00	70.00
1,2,4-Trimethylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.00	
Isopropylbenzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.00	70.00
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	700.00
1,1 Dichloroethene	BDL	BDL	1.60	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	7.00
Trichloroethene	BDL	BDL	1.00	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.80
1,1,1 Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	200.00
cis-,1,2-Dichloroethylene	BDL	BDL	2.70	BDL	1.40	BDL	NA	BDL	BDL	BDL	BDL	70.00
Chloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	2800.00
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	**22.00**	BDL	0.19
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.015
Total CVOCs	0.00	0.00	5.30	0.00	1.40	BDL	0.00	0.00	0.00	22.00	0.00	
Acenaphthene	BDL	NA	NA	BDL	BDL	BDL	NA	BDL	11.00	BDL	BDL	80.00
1-Methylnaphthalene	**44.00**	NA	NA	BDL	BDL	BDL	NA	**43.00**	**23.00**	**110.00**	**41.00**	NS
2-Methylnaphthalene	**38.00**	NA	NA	BDL	BDL	BDL	NA	9.90	BDL	**87.00**	**40.00**	28.00
Benzo (a) anthracene	NA	NA	NA	BDL	BDL	BDL	NA	BDL	BDL	**4.50**	BDL	0.0479
Phenanthrene	12.00	NA	NA	24.00	2.60	BDL	NA	24.00	33.00	**270.00**	BDL	210.00
Floranthene	NA	NA	NA	BDL	BDL	BDL	NA	BDL	BDL	23.00	BDL	280.00
Fluorene	NA	NA	NA	BDL	BDL	BDL	NA	12.00	15.00	BDL	BDL	280.00
Pyrene	NA	NA	NA	BDL	BDL	BDL	NA	4.40	BDL	54.00	BDL	210.00
Lead	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	BDL	15.00

All Results in ug/l.
NA Indicates Not Analyzed.
BDL Indicates Below Detection Limit.
Bold Indicates Concentration Above State 2L Standard.
NS Indicates Well Not Sampled.

Table 5: Nello Teer Recovery Well Sampling Results Summary

RW-8

Constituent	Date									2L Standard
	6/14/00	12/7/00	6/15/00	12/28/01	6/4/02	9/12/02	4/15/03	10/20/03	4/26/04	
Benzene	**10.10**	BDL	BDL	NS	BDL	BDL	**15.00**	**16.00**	**15.00**	1.00
Toluene	1.20	BDL	BDL	NS	BDL	BDL	BDL	BDL	BDL	1000.00
Ethylbenzene	3.10	BDL	BDL	NS	13.00	BDL	2.00	7.90	BDL	29.00
Xylenes	4.90	BDL	BDL	NS	BDL	BDL	7.60	10.00	BDL	530.00
Naphthalene	BDL	BDL	BDL	NS	NA	BDL	2.90	**55.00**	BDL	21.00
MTBE	BDL	2.50	BDL	NS	BDL	BDL	BDL	BDL	BDL	200.00
EDB	BDL	BDL	BDL	NS	NA	NA	NA	NA	NA	0.0004
IPE	BDL	BDL	BDL	NS	BDL	8.80	24.00	BDL	11.00	70.00
Total VOCs	19.30	2.50	0.00	NS	13.00	8.80	51.50	88.90	26.00	
Acenaphthene	BDL	BDL	BDL	NS	BDL	BDL	2.20	4.20	BDL	80.00
Acenaphthylene	BDL	BDL	BDL	NS	BDL	BDL	BDL	1.30	BDL	210.00
1-Methylnaphthalene	BDL	BDL	BDL	NS	BDL	BDL	8.90	**41.00**	BDL	NS
2-Methylnaphthalene	BDL	BDL	BDL	NS	BDL	BDL	3.30	**34.00**	BDL	14.00
Fluorene	BDL	BDL	BDL	NS	BDL	BDL	2.60	6.20	BDL	280.00
Phenanthrene	BDL	BDL	BDL	NS	BDL	BDL	2.30	9.60	BDL	210.00
Pyrene	BDL	BDL	BDL	NS	BDL	NA	BDL	1.90	BDL	210.00
1,1-Dichloroethane	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	700.00
1,1 Dichloroethene	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	7.00
Trichloroethene	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	2.80
1,1,1 Trichloroethane	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	200.00
cis-,1,2-Dichloroethene	BDL	BDL	BDL	NS	NA	NA	BDL	BDL	BDL	70.00
Chloroethane	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	MDL
Chloroform	BDL	BDL	BDL	NS	BDL	NA	BDL	**22.00**	BDL	0.19
Vinyl Chloride	BDL	BDL	BDL	NS	BDL	NA	BDL	BDL	BDL	0.02
Total CVOCs	0.00	0.00	0.00	NS	0.00	0.00	0.00	22.00	0.00	
Lead	NA	NA	NA	NS	NA	NA	NA	NA	BDL	15.00

All Results in ug/l.
NA Indicates Not Analyzed.
BDL Indicates Below Detection Limit.
Bold Indicates Concentration Above State 2L Standard.
NS Indicates Well Not Sampled.

Table 5: Nello Teer Recovery Well Sampling Results Summary

	RW-10	
Constituent	Date	2L Standard
	4/26/04	
Benzene	BDL	1.00
Toluene	BDL	1000.00
Ethylbenzene	BDL	29.00
Xylenes	BDL	530.00
Naphthalene	**72.00**	21.00
MTBE	BDL	200.00
EDB	BDL	0.0004
IPE	BDL	70.00
Total VOCs	72.00	
Acenaphthene	BDL	80.00
Acenaphthylene	BDL	210.00
1-Methylnaphthalene	**15.00**	NS
2-Methylnaphthalene	BDL	14.00
Fluorene	BDL	280.00
Phenanthrene	BDL	210.00
Pyrene	BDL	210.00
1,1-Dichloroethane	BDL	700.00
1,1 Dichloroethene	BDL	7.00
Trichloroethene	BDL	2.80
1,1,1 Trichloroethane	BDL	200.00
cis-,1,2-Dichloroethene	BDL	70.00
Chloroethane	BDL	MDL
Chloroform	BDL	0.19
Vinyl Chloride	BDL	0.02
Total CVOCs	0.00	
Lead	13.00	15.00

123 files/13/139412/9412rwax.xls

All Results in ug/l.
NA Indicates Not Analyzed.
BDL Indicates Below Detection Limit.
Bold Indicates Concentration Above State 2L Standard.
NS Indicates Well Not Sampled.

DIVISION OF WATER QUALITY
GROUNDWATER SECTION
March 4, 2002

Memorandum

To: Mark Pritzl, Hydrogeological Technician II
Underground Injection Control (UIC) Group, Central Office

From: Eric Rice, Hydrogeologist I ER
Groundwater Section, Raleigh Regional Office

Through: Jay Zimmerman, Regional Supervisor JZ
Groundwater Section, Raleigh Regional Office

Subject: Site Inspection Concerning Injection Wells

Nello Teer Durham Quarry
5013 Denfield Street
Durham, NC-Durham County

GW Incident # 9357
Site Rank: 110B

Per your request the Nello Teer site was inspected on February 25, 2002. Charles Ross with Quantum Environmental Inc. was on site during the inspection to discuss the injection well issues. The following is a description of what was observed pertaining to the installation and operation of the injection well system and the conclusions drawn from the inspection.

The injection wells will be installed in a cleared lot area, where an asphalt testing laboratory was formally located. Property boundaries are somewhere around 1000+ feet away. The rock quarry is located about 150 feet away. It was observed during the inspection that a trailer containing tanks of hydraulic oil was located about 300 feet from the closest injection well location. The building the hydraulic oil trailer is located beside appears to be used for mining equipment maintenance. It does not appear that flooding in this location will be a problem although there is a small manmade pond located 50 feet from the nearest injection point. There is one on site water supply well located approximately 1000 feet away.

A number of small spills were observed around the site. Two spill areas were noted to be located within 75 feet of the injection locations. Upon further investigation of the spill areas, it was found that they were likely to be hydraulic oil or waste oil spills of possibly less than 50 gallons. It is recommended that the injection points are immediate closed after use or secured due to the suspected frequent occurrence of spills at the site.

There has not been a final CAP approval by this office concerning the Nello Teer release. A cursory review was completed to see if the injection process was a reasonable way to proceed. During the review it has been noted that the contaminant plume does not appear to be completely defined. Because of this it is our opinion that there are not enough monitoring wells to adequately discern if the injection process is effective in remediating the plume. Additional monitoring wells are recommended in the vicinity of MW-25 for that purpose. Also, during the inspection it was noted that the current site map does not appear to accurately depict the location of some wells. It is recommended that a new-updated site map is requested so that accurate locations of injections points are known.

Please contact me if you have any questions regarding the site inspection or if you would like to further discuss the site situation.

Attachment: Preconstruction Injection Facility Inspection Report-Form A.

North Carolina Department of Environment and Natural Resources
Division of Water Quality
Groundwater Section

PRECONSTRUCTION INJECTION FACILITY INSPECTION REPORT-FORM A

INJECTION WELL PERMIT NO. WI_____ **DATE** 2/25/02

NAME OF OWNER Hanson Aggregates

ADDRESS OF OWNER 2300 Gateway Center Blvd.
Morrisville, NC 27560
(Street/ road or lot and subdivision, county, town)

LOCATION OF PROPOSED INJECTION WELL (and source well(s), if applicable)
Former Nello Teer Quarry located at the end of Denfield St. in Durham - Durham County. Take right at guard shack, site is on the left near quarry.
(Street/ road or lot and subdivision , county, town, if different than owner's address, plus description of location on site)

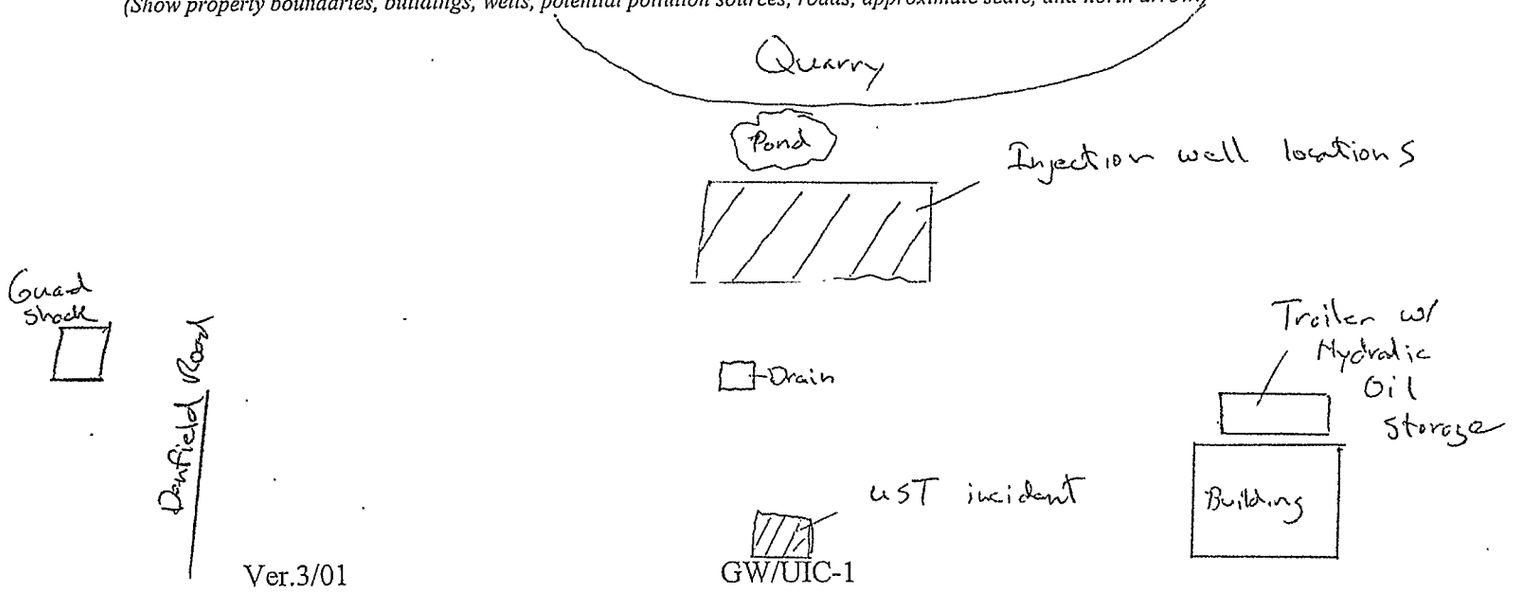
Potential pollution source Hydraulic Oil Storage Distance from well 300'
Potential pollution source _____ Distance from well _____

Potential pollution source _____ Distance from well _____

Minimum distance of proposed well from property boundary 1000'+

Quality of drainage at site Good Flooding potential of site low
(good,adequate,poor) *(high,moderate,low)*

DRAW SKETCH OF SITE
(Show property boundaries, buildings, wells, potential pollution sources, roads, approximate scale, and north arrow.)



* Not to scale

PRECONSTRUCTION INJECTION FACILITY INSPECTION REPORT - FORM A (cont.)

GPS Data:

Latitude: 36 04 00 **Longitude:** 78 53 31

COMMENTS

Site location is mostly a cleared lot. Quarry is approximately 150' from location. Property boundaries are fairi away and are not an issue. There is a small manmade pond about 50' from well locations. Two spills were noted to be about 75' from injection area, they appeared to be hydraulic oil. There is a trailer with hydraulic oil tanks inside located about 300' away. Underneath the trailer there was evidence of ongoing spills. Mr. Ross indicated RW-9 (deep aquifer recovery well) was not in operation. It does not look like flooding or poor drainage will be a problem.

INSPECTOR Eric Rice
Office RRO

WITNESS _____
Address

WITNESS _____
Address

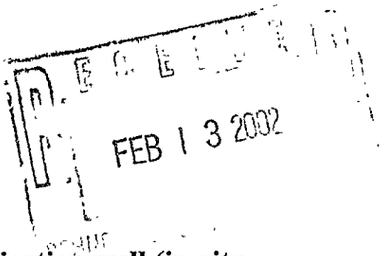
DIVISION OF WATER QUALITY
GROUNDWATER SECTION

February 11, 2002

MEMORANDUM

To: Jay Zimmerman, L.G., Regional Groundwater Supervisor
Groundwater Section
Raleigh Regional Office

From: Mark Pritzl MP. *Mark.Pritzl@ncmail.net*
Hydrogeological Technician II
Underground Injection Control (UIC) Group
Central Office (CO)



Re: Request for review of an injection well application, **type 5I injection well (in-situ remediation)**, submitted by Quantum Environmental, to construct and use injection wells for the injection of an HRC™ slurry to enhance reductive dechlorination of the dissolved chlorinated organic contamination at the former Nello Teer Quarry on Denfield Street, in Durham, North Carolina.

1. **Please review the application** and submit **any** comments to CO-UIC group. Retain the application for your UIC file.

2. **Please inspect the injection well site** to verify that the location and construction plans submitted in the application are accurate and that the NCAC Title 15A 2C.0200 standards are being complied with, using the enclosed *Preconstruction Injection Facility Inspection Report (Form A)* as appropriate.

3. You are requested to return ***The Review Comments*** and the completed ***Preconstruction Injection Facility Inspection Report (Form A)*** to the CO-UIC by **February 28, 2002.** If the inspection and review can not be accomplished by this date, please inform the CO-UIC.

The UIC group **greatly appreciates** your assistance with this review. If you have any questions regarding this review or the UIC program, please contact me at (919) 715-6166.

cc: CO-UIC Files
Enclosures

Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources

Gregory J. Thorpe, Ph.D.
Acting Director
Division of Water Quality

February 11, 2002

Mr. Charles C. Ross, P.G.
Quantum Environmental, Incorporated
6001 Chapel Hill Road
Suite 108
Research Triangle Park, NC 27607

Dear Mr. Ross:

Your application for a permit to construct and/or use injection wells for injecting an HRC™ slurry to enhance reductive dechlorination of the dissolved chlorinated organic contamination at Denfield Street, in Durham, North Carolina has been received and is currently under review. A member of the Groundwater Section's Raleigh Regional Office staff may be contacting you to arrange an inspection of the injection site as part of the review.

If you have any questions regarding the permit or injection well rules please contact me at (919) 715-6165 or Mark Pritzl (919) 715-6166.

Sincerely,

Evan O. Kane
Hydrogeologist
Underground Injection Control Program

cc: CO-UIC Files
RRO-UIC Files

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

APPLICATION FOR PERMIT TO CONSTRUCT AND/OR USE A WELL(S) FOR INJECTION

Class 5I Wells

In Accordance with the provisions of NCAC Title 15A: 02C.0200
Complete application and mail to address on the back page.

TO: DIRECTOR, NORTH CAROLINA DIVISION OF WATER QUALITY
DATE: January 31, 20 02

A. PERMIT APPLICANT

Name: Charles C. Ross, P.G.
Address: 6001 Chapel Hill Rd. Suite 108
City: Raleigh State: NC Zip Code: 27607
County: Wake Telephone: 852-3595

B. PROPERTY OWNER (if different from applicant)

Name: Hanson Aggregates
Address: 2300 Gateway Center Blvd.
City: Morrisville State: NC Zip Code: 27560
County: Wake Telephone: 380-2600

C. STATUS OF APPLICANT

Private: _____ Commercial: ✓ Federal: _____ State: _____
County: _____ Municipal: _____ Native American Lands: _____

D. FACILITY (SITE) DATA
(Fill out ONLY if the Status is Federal, State, County, Municipal or Commercial).

Name of Business or Facility: Former Nello Teer Quarry
Address: Denfield Street
City: Durham Zip Code: 27704 County: Durham
Telephone: _____ Contact Person: _____

E. INJECTION PROCEDURE

Provide a detailed description of all planned activities relating to the proposed injection facility including but not limited to:
(1) construction plans and materials;
(2) operation procedures; and
(3) a planned injection schedule.

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F. DESCRIPTION OF SITE

Provide a brief description of the contamination incident and the incident number assigned by the Division of Water Quality staff in the Department's Regional Office:
GW Incident No. 9357. A former DOT asphalt lab is the reported source of the contamination. The site has 2 plumes, 1 petroleum and 1 chlorinated. Both are under active recovery.

G. HYDROGEOLOGIC DESCRIPTION

SECTION (G) MUST BE ORIGINALLY SEALED AND SIGNED BY A LICENSED GEOLOGIST

Provide a hydrogeologic description, soils description, and cross section of the subsurface to a depth that included the known or projected depth of contamination. The number of borings shall be sufficient to determine the following:
(1) the regional geologic setting;
(2) significant changes in lithology;
(3) the hydraulic conductivity of the saturated zone;
(4) the depth to the mean seasonal high water table; and
(5) a determination of transmissivity and specific yield of the aquifer to be used for injection (showing calculations).

H. MONITORING PROCEDURE

See enclosed write-up for Sections G + H

Provide plans for proposed location and construction details of groundwater monitoring well network, including a schedule for sampling and analytical methods. Include any modeling/testing performed to investigate injectant's potential or susceptibility to change (biological, chemical or physical) in the subsurface.

I. WELL USE Will the injection well(s) also be used as the supply well(s) for the following?

(1) The injection operation? YES _____ NO X
(2) Personal consumption? YES _____ NO X

J. CONSTRUCTION DATA (check one)

_____ EXISTING WELL being proposed for use as an injection well. Provide the data in (1) through (7) below to the best of your knowledge. Attach a copy of Form GW-1 (Well Construction Record) if available.

X PROPOSED WELL to be constructed for use as an injection well. Provide the data in (1) through (7) below as PROPOSED construction specifications. Submit Form GW-1 after construction.

(1) Well Drilling Contractor's Name: Ben Troxler, L.G. / Charles C. Ross, L.G.
NC Contractor Certification number: 2786

(2) Date to be constructed: Feb 14-15 Number of borings: up to 30
Approximate depth of each boring (feet): 30 - 31 feet

(3) Well casing:
Type: Galvanized steel____ Black steel____ Plastic____ Other (specify) n/a
Casing depth: From — to — ft. (reference to land surface)
Casing extends above ground n/a inches

(4) Grout:
Grout type: Cement____ Bentonite ✓ Other (specify) _____
Grouted surface and grout depth (reference to land surface):
____ around closed loop piping; from 0 to 8 (feet).
____ around well casing; from _____ to _____ (feet).

(5) Screens
Depth: From — to — feet below ground surface.

(6) N.C. State Regulations (Title 15A NCAC 2C .0200) require the permittee to make provisions for monitoring wellhead processes. A faucet on both influent (recovered groundwater) and effluent (fluid being injected into the well) lines is generally required.

Will there be a faucet on the influent line? yes_____ no X
Will there be a faucet on the effluent line? yes_____ no X

(7) SOURCE WELL CONSTRUCTION INFORMATION (if different from injection well). Attach a copy of Form GW-1 (Well Construction Record). If Form GW-1 is not available, provide the data in part G of this application form to the best of your knowledge.

NOTE: THE WELL DRILLING CONTRACTOR CAN SUPPLY THE DATA FOR EITHER EXISTING OR PROPOSED WELLS IF THIS INFORMATION IS UNAVAILABLE BY OTHER MEANS.

K. OTHER WELL DATA

Provide a tabulation of data on all wells within ¼ mile of the injection well(s), excepting water supply wells serving a single-family residence, which penetrate the proposed injection zone. Such data shall include a description of each well's type, depth, record of abandonment or completion, and additional information the Director may require.

L. PROPOSED OPERATING DATA

(1) Injection rate: Average (daily) n/a gallons per minute (gpm)
(2) Injection volume: Average (daily) — gallons per day (gpd)
(3) Injection pressure: Average (daily) — pounds/square inch (psi)
(4) Injection temperature: Average (January) — ° F, Average (July) — ° F
(5) Hydraulic capacity of the well: n/a
(6) Expected lifetime of the injection facility: 1 years
(7) Give a description of how the above data will be measured and controlled: Proposed injection wells (points) will be filled with approximately 75-100 lbs. of HRC compound (injectant). Tops will be sealed with bentonite pellets and hydrated.

M. INJECTION-RELATED EQUIPMENT

Attach a diagram showing the detailed plans and specifications of the surface and subsurface construction details of the system.

N. LOCATION OF WELL(S)

Attach a scaled, site-specific map(s) showing the location(s) of the following:

(1) the proposed injection well(s);
(2) all property boundaries;
(3) contour intervals not exceeding two feet;
(4) the direction and distance from the injection well or well system to two nearby, permanent reference points (such as roads, streams, and highway intersections);
(5) all buildings within the property boundary;
(6) any other existing or abandoned wells, including water supply and monitoring wells, within the area of review of the injection well or wells system;
(7) potentiometric surface showing direction of groundwater movement;
(8) the horizontal and vertical extent of the contaminant plume (including isoconcentration lines and plume cross sections);
(9) any existing sources of potential or known groundwater contamination, including waste storage, treatment or disposal systems within the area of review of the injection well or well system; and
(10) all surface water bodies within 1000 feet of the injection well or well system.

O. INJECTION FLUID DATA

(1) Fluid source, if underground, from what depth, formation and type of rock/sediment unit will the fluid be drawn (e.g., granite, limestone, sand, etc.).

Depth: n/a — no fluid will be withdrawn
Formation: unconsolidated silt & clay to sandstone / siltstone
Rock/sediment unit: unnamed Triassic Age sediments

(2) Provide the chemical, physical, biological and radiological characteristics of the fluid to be injected. see enclosed MSDS

P. PERMIT LIST

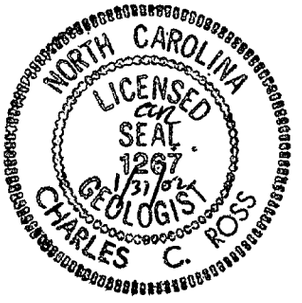
Attach a list of all permits or construction approvals that are related to the site, including but not limited to:

(1) Hazardous Waste Management program permits under RCRA
(2) NC Division of Water Quality Non-Discharge permits
(3) Sewage Treatment and Disposal Permits
(4) Other environmental permits required by state or federal law.

NPDES # NC0085243 discharge permit

Q. CERTIFICATION

"I hereby certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining said information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties, including the possibility of fines and imprisonment, for submitting false information. I agree to construct, operate, maintain, repair, and if applicable, abandon the injection well and all related appurtenances in accordance with the approved specifications and conditions of the Permit."



(Signature of Well Owner or Authorized Agent)

If authorized agent is acting on behalf of the well owner, please supply a letter signed by the owner authorizing the above agent.

R. CONSENT OF PROPERTY OWNER (Owner means any person who holds the fee or other property rights in the well being constructed. A well is real property and its construction on land rests ownership in the landowner in the absence of contrary agreement in writing.)

If the property is owned by someone other than the applicant, the property owner hereby consents to allow the applicant to construct each injection well as outlined in this application and that it shall be the responsibility of the applicant to ensure that the injection well(s) conforms to the Well Construction Standards (Title 15A NCAC 2C .0200)

(Signature Of Property Owner If Different From Applicant)

Please return **two** copies of the completed Application package to:

UIC Program
Groundwater Section
North Carolina DENR-DWQ
1636 Mail Service Center
Raleigh, NC 27699-1636

Telephone (919) 715-6165

E. HRC Injection Procedure

The planned injection event has been tentatively scheduled for mid-February, 2002. The plan as it has been submitted to the client, Hanson Aggregates, is to inject approximately 2000-3000 lbs. of Hydrogen Release Compound (HRC) into the subsurface saturated zone of the shallow aquifer in approximately twenty to thirty points using a portable grout pump. HRC is a proprietary food grade polylactate ester designed to aid in the process of reductive dechlorination. The treatment zone will consist of an approximate twenty-five foot treatment thickness, from approximately 10 feet to 35 feet bgs. The treatment plan calls for injecting the HRC compound at a rate of approximately 4 lbs./ft. The shallow aquifer at this location currently extends from approximately 8 feet to 35 feet below ground surface (bgs). The treatment area will be the approximate center of the chlorinated volatile organic compound (CVOC) plume which has been defined at the site, centered around monitoring well MW-25.

The HRC injection is designed to be a late stage measure for remediating the identified CVOCs at the site by enhancing anaerobic biodegradation using a polylactate ester (HRC compound). Quantum intends to perform the injection through approximately thirteen to thirty points, injecting 80-100 lbs. of compound into each point (at a rate of 4 lbs./ft.). A proposed injection figure has been included for review (Figure 5). Site maps and current plume maps are also included as Figures 1-8. The injection area is planned for the approximate location of the current 1,1,1 - Trichloroethane plume at or above the NCAC 2L Standard. In this way, the maximum quantity of original contaminant may be treated, thereby breaking the chlorinated compounds into non-hazardous daughter products. The HRC works by breaking the chlorine off of the solvents as well as the daughter compounds and allowing for further biodegradation to non-hazardous end stage compounds (ethylene). It accomplishes this by providing free hydrogen into the subsurface environment.

See the manufacturer enclosed materials concerning HRC, as well as the MSDS sheet.

G. Regional Geologic/Hydrogeologic Setting

The former Teer quarry is located in a mixed geologic setting, consisting of Triassic age sediments (siltstone, sandstones) underlain by metamorphosed volcanics and igneous intrusives (diabase). The geology has been previously summarized in the CSA Addendum report, submitted in 1993 by Geonetics. The site is located just north of the City of Durham (Figure 1). Figure 2 is a Site Map and Figure 3 illustrates the proposed HRC treatment area in relation to the site.

The subsurface geology of the work area consists of fill material overlying unconsolidated silts and clays, which overlies sandstone and siltstone (primarily consolidated). A semi-confining layer is located at approximately thirty-five feet, at which point the deep aquifer begins. The subsurface geology of the injection area is indicated on cross sections B-B' and C-C' (Figures 4b and 4c), as well as in the enclosed boring log for nearby MW-1.

The contaminants of concern include 1,1,1-trichloroethane, trichloroethane, 1,1 dichloroethene and vinyl chloride. All of these have been detected above 2L Standards

for some time. The current worst case CVOC total is approximately 1,000 ug/l in the shallow aquifer, of which approximately one-third consists of 1,1,1 - Trichloroethane. A groundwater remediation system (pump and treat) has been in operation at the site since October, 1997; however, groundwater recovery from this area has been historically poor.

Chlorinated solvent contamination has been detected in the deep aquifer as shown in laboratory results from RW-9. Current CVOC contamination in deep recovery well RW-9 (screened from 55-75 feet) is approximately 45 percent as severe as concentrations detected in the surficial aquifer immediately above (total current CVOC contamination = 427 ug/l).

The shallow aquifer chosen for the HRC injection flows to the southeast, at a gradient of approximately 0.023 ft./ft., with a seepage velocity of approximately 0.37 ft./day (Figure 4). The hydraulic conductivity is approximately 3-5'/day (.0010-.0017 cm/sec). Effective porosity is approximately 0.20. Transmissivity is calculated to be 150 $ft.^2$/day, and the specific yield is 12-19 percent. The depth to water in the shallow aquifer is approximately eight feet bgs, with an annual fluctuation of three to five feet. The current depth to groundwater is 8.27 feet bgs. Only small quantities of groundwater are recovered on a daily basis from the shallow aquifer (< 200 gallons/day). As groundwater recovery has been historically poor, this proposal for enhanced bioremediation utilizing HRC compound offers the best opportunity to remediate the chlorinated solvent contamination at the site as a secondary remedial technology. MW-25 occupies the approximate center of the planned HRC injection area.

H. Monitoring Procedure

Currently the site is on a semi-annual monitoring schedule. The following nearby wells are monitored on a regular basis for chlorinated compounds: MW-25, RW-5, RW-9, RW-6, RW-7, MW-17, MW-26, MW-18 and MW-13. Some additional monitoring may occur in between the 180 days between events to assess the effectiveness of the HRC remediation project. Presently, all nearby wells are sampled using EPA Method 601. Some modeling has been done by the prospective vendor (Regenesis), and natural attentuation parameters were collected from the target monitoring well in order to assess competing electron acceptors. These parameters included dissolved oxygen, sulfate, nitrate, iron, manganese and total organic carbon.

K. Other Well Data

Twenty-seven monitoring wells are located within one-quarter mile of the proposed injection zone. Eleven of these wells are close enough to potentially monitor changes in the plume. Four to five of these wells are expected to indicate changes in the plume itself. Monitor well details are available for most of these wells upon request. Twelve water supply wells are located within one-quarter mile of the area of concern. The closest of these supply wells is approximately 900 feet from the source area.

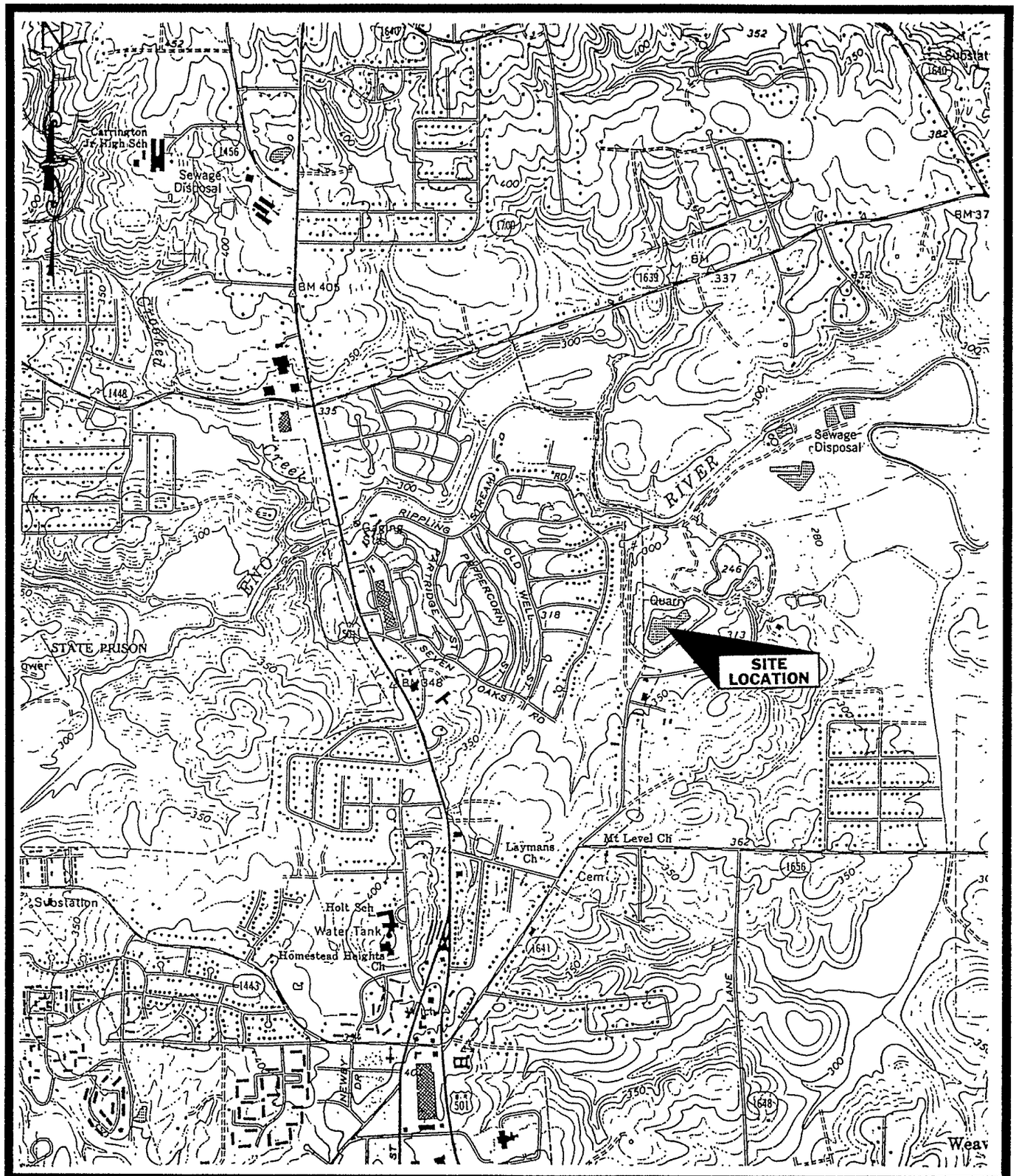
M. Injection Related Equipment

No injection related equipment will be installed. The HRC material will be injected directly through open boreholes into the subsurface utilizing a Geoprobe GS-2000 grout pump or equivalent.

List of Figures

FIGURES:

APPENDICES:



SITE LOCATION MAP

Nello Teer Quarry
5013 Denfield Street
Durham, North Carolina

Quantum Environmental, Inc.

6001 Chapel Hill Road, Suite 108
Raleigh, NC 27607

(919) 852-3595 (919) 852-1997

FIGURE 1

SCALE: 1" = 2000'

Proj. No: 0013-94-012

N

QUARRY
PIT

APPROXIMATE
LOCATION OF FORMER
ASPHALT PLANT

MW-18 10
RW-6
MW-26 13
MW-25 14
RW-5
RW-9
MW-13 65
MW-14I 49
RW-7
MW-7 14
MW-11 50
MW-17 12.5
MW-1 35
RW-1
WASTE OIL
TRUCK SHOP
ELECTRICAL SHOP
MW-19 10
MW-20D 115
RW-4
MW-15I
MW-24
RW-3
RW-8
MW-23
RW-2
MW-3 62
SCALE HOUSE
MW-16I
MW-22
OLD SERVICE STATION
MW-9
OFFICE
DENFIELD STREET

APPROXIMATE LOCATION OF FORMER TANKS

50' POWER & WATER EASEMENT CONTAINING A 24" & A 42" WATER MAIN

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION

Quantum ENVIRONMENTAL, INC.
6001 Chapel Hill Rd, Suite 108 Raleigh, North Carolina 27607
Phone 919.852.3566 Fax 919.852.1697

FIGURE 2

WELL LOCATION MAP
NELLO L. TEER
DURHAM QUARRY

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0013-94-012
SCALE: 1"= 110'

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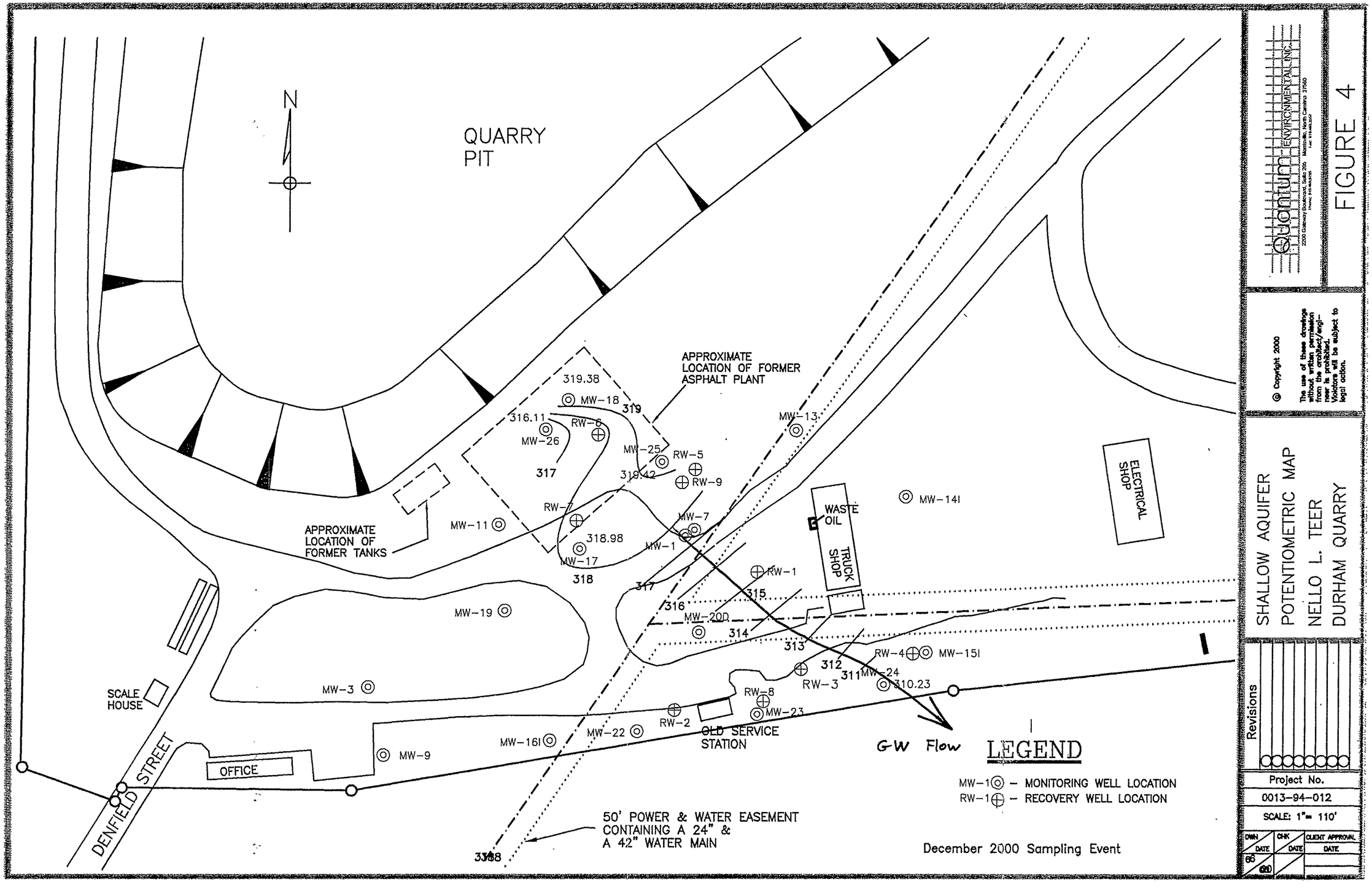

Quantum ENVIRONMENTAL INC.
2200 Gateway Boulevard, Suite 200 Morrisville, North Carolina 27560
Phone: 919.463.5300 Fax: 919.463.5301

FIGURE 4

SHALLOW AQUIFER
POTENTIOMETRIC MAP
NELLO L. TEER
DURHAM QUARRY

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0013-94-012
SCALE: 1"= 110'

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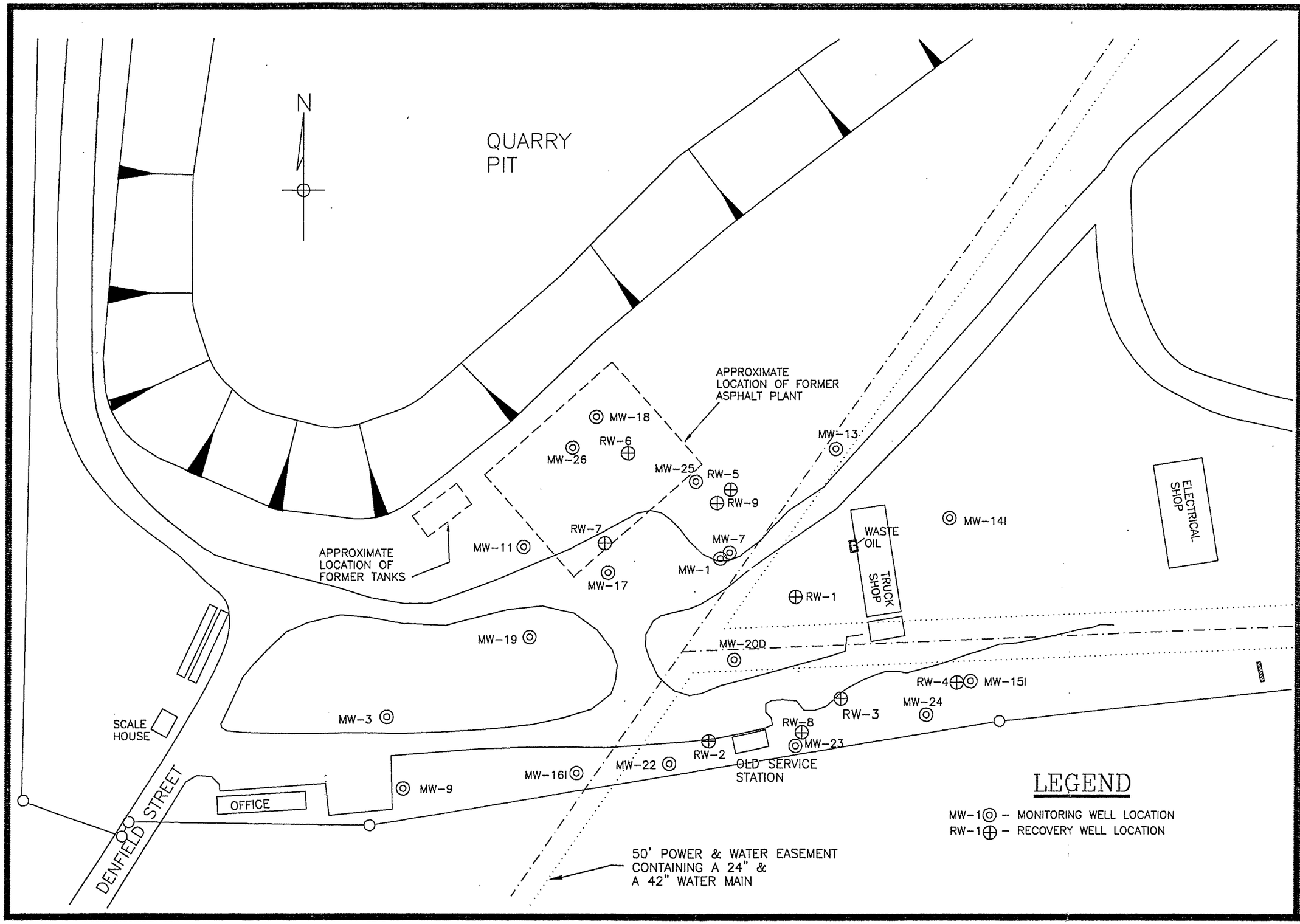

Quantum ENVIRONMENTAL, INC.
2000 Gateway Boulevard, Suite 205 Morrisville, North Carolina 27560
Phone: 919.460.1000 Fax: 919.460.1001

FIGURE 2

WELL LOCATION MAP
NELLO L. TEER
DURHAM QUARRY

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N

QUARRY
PIT

APPROXIMATE
LOCATION OF PLANNED
HRC TREATMENT AREA

MW-18
RW-6
MW-26
MW-25
RW-5
RW-9
RW-7
MW-11
MW-17
MW-7
MW-1
MW-13
MW-14S
MW-14I
WASTE OIL
TRUCK SHOP
ELECTRICAL SHOP
RW-1
APPROXIMATE
LOCATION OF
FORMER TANKS
MW-19
MW-20D
RW-4
MW-15I
MW-24
RW-3
RW-8
MW-23
RW-2
MW-3
SCALE
HOUSE
MW-16S
MW-16I
MW-22
MW-9
OFFICE
OLD SERVICE
STATION
DENFIELD STREET

50' POWER & WATER EASEMENT
CONTAINING A 24" &
A 42" WATER MAIN

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION

Quantum ENVIRONMENTAL INC.
2200 Gateway Boulevard Suite 205 Morrisville North Carolina 27560
Phone 919.468.8724 Fax 919.468.3357

FIGURE 3

PROPOSED TREATMENT
AREA (HRC INJECTION)
NELLO L. TEER QUARRY
DURHAM QUARRY

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0013-94-012
SCALE: 1"= 110'

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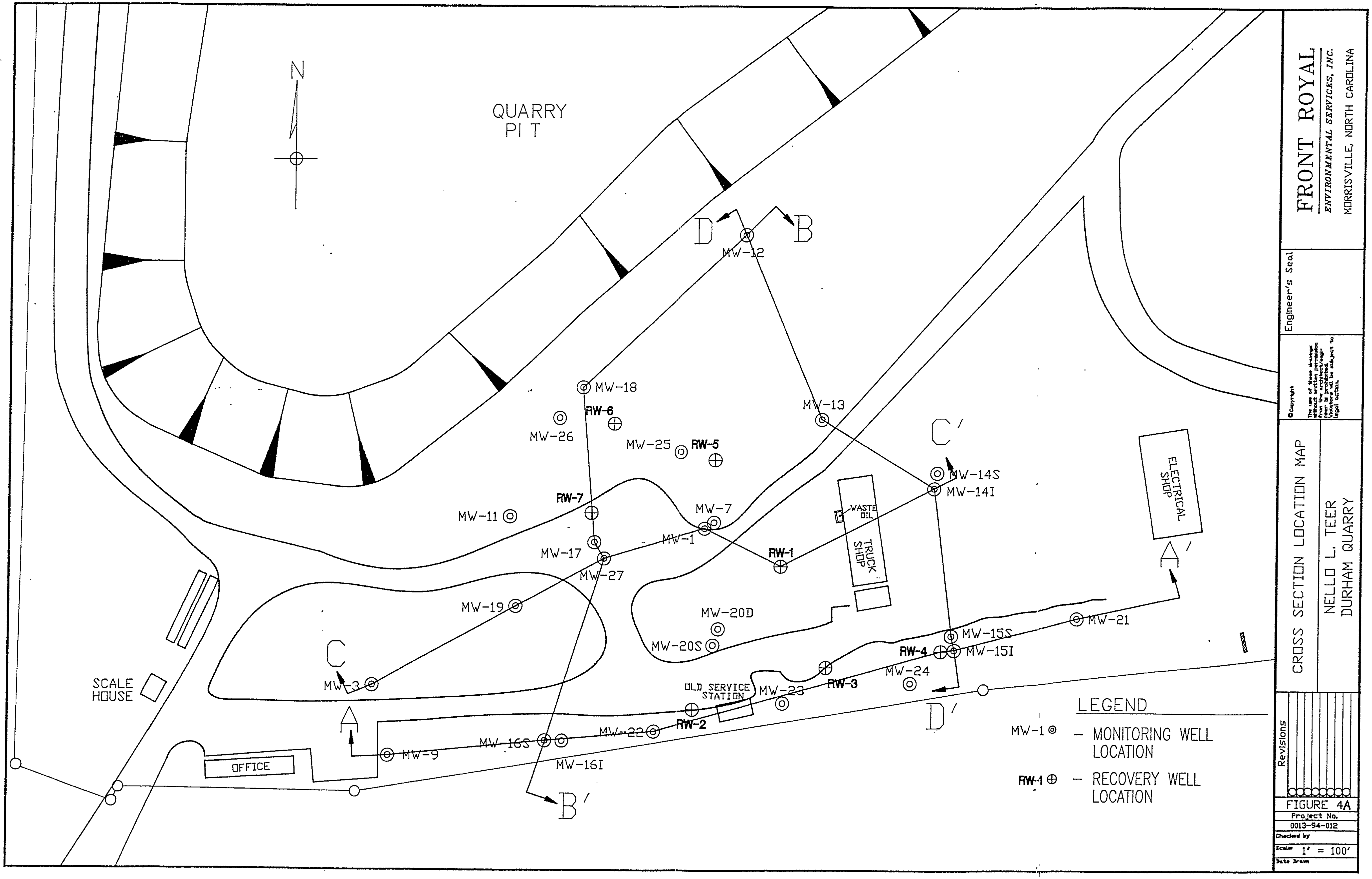

N
QUARRY
PI T
D
B
MW-12
MW-18
RW-6
MW-26
MW-25
RW-5
MW-13
C'
MW-14S
MW-14I
ELECTRICAL
SHOP
RW-7
MW-11
MW-7
MW-1
WASTE
OIL
TRUCK
SHOP
RW-1
MW-17
MW-27
A'
MW-19
MW-20D
MW-20S
MW-15S
RW-4
MW-15I
MW-21
C
SCALE
HOUSE
MW-3
OLD SERVICE
STATION
MW-23
RW-3
MW-24
D'
A
RW-2
MW-22
MW-16S
MW-9
MW-16I
OFFICE
B'
LEGEND
MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION
FRONT ROYAL
ENVIRONMENTAL SERVICES, INC.
MORRISVILLE, NORTH CAROLINA
Engineer's Seal
©Copyright
CROSS SECTION LOCATION MAP
NELLO L. TEER
DURHAM QUARRY
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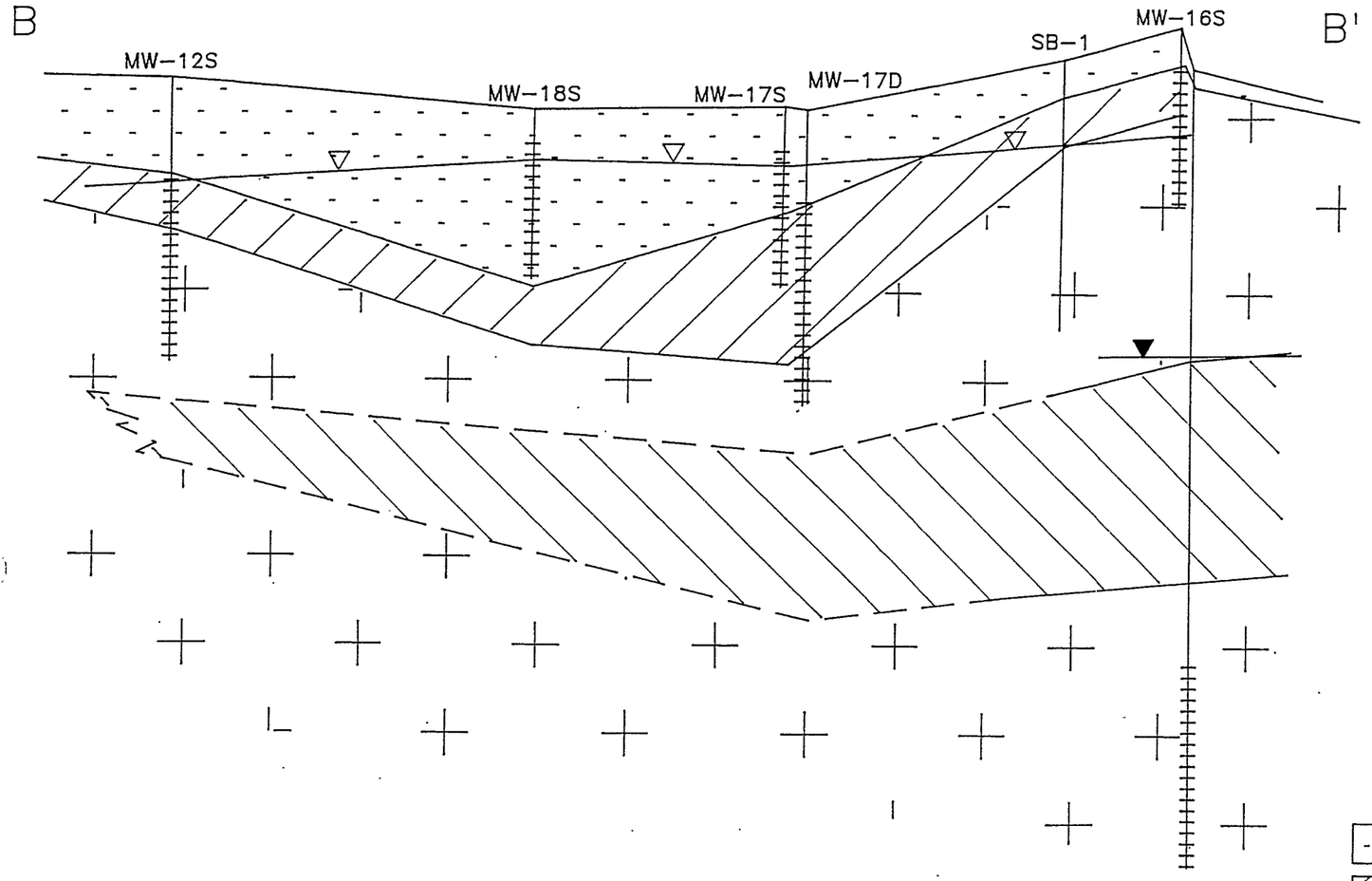
FIGURE 4A
Project No.
0013-94-012
Checked by
Scale 1" = 100'
Date Drawn



SCALE: HORIZ. 1" = 100'
VERT. 1" = 10'

LEGEND

- FILL
- UNCONSOLIDATED SILTS & CLAYS
- SANDSTONE
- SILTSTONE
- SHALLOW AQUIFER SURFACE
- DEEP AQUIFER SURFACE
- SCREEN INTERVAL

FRONT ROYAL
ENVIRONMENTAL SERVICES, INC.

PROJECT # 0013-94-012

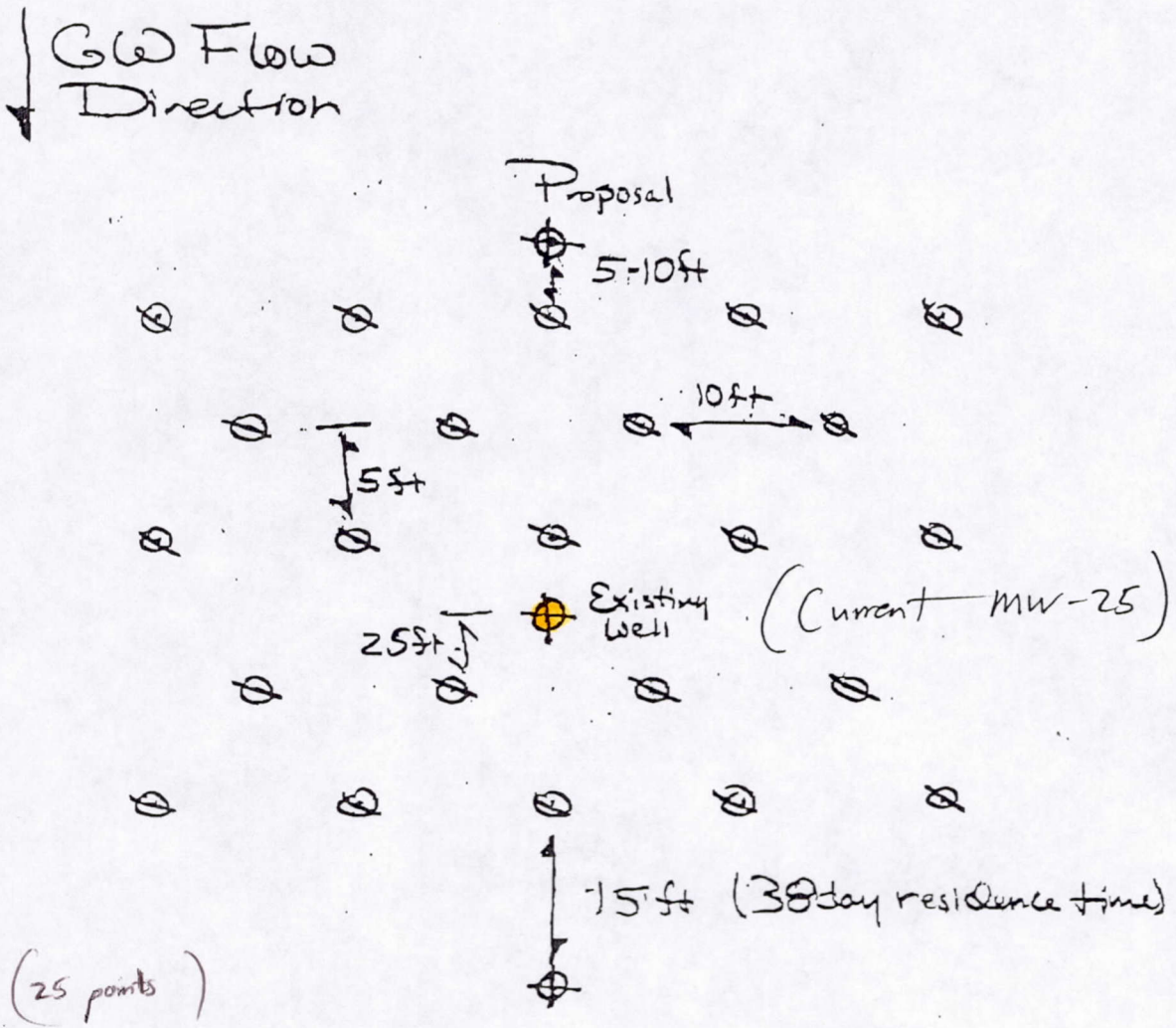
CROSS SECTION B-B'

NELLO L. TEER QUARRY
DURHAM, NORTH CAROLINA

FIGURE
4B
SCALE
AS SHOWN

Nello Teav Site | Quantum Env. Inc.

Pilot Test Array (Proposed) Charles Ross



Est. GW Velocity
0.4 ft/day

Scale: 1" = 10'

⊕ Monitoring Wells

⊗ HRC Injection Pt.

Figure 5

CAS

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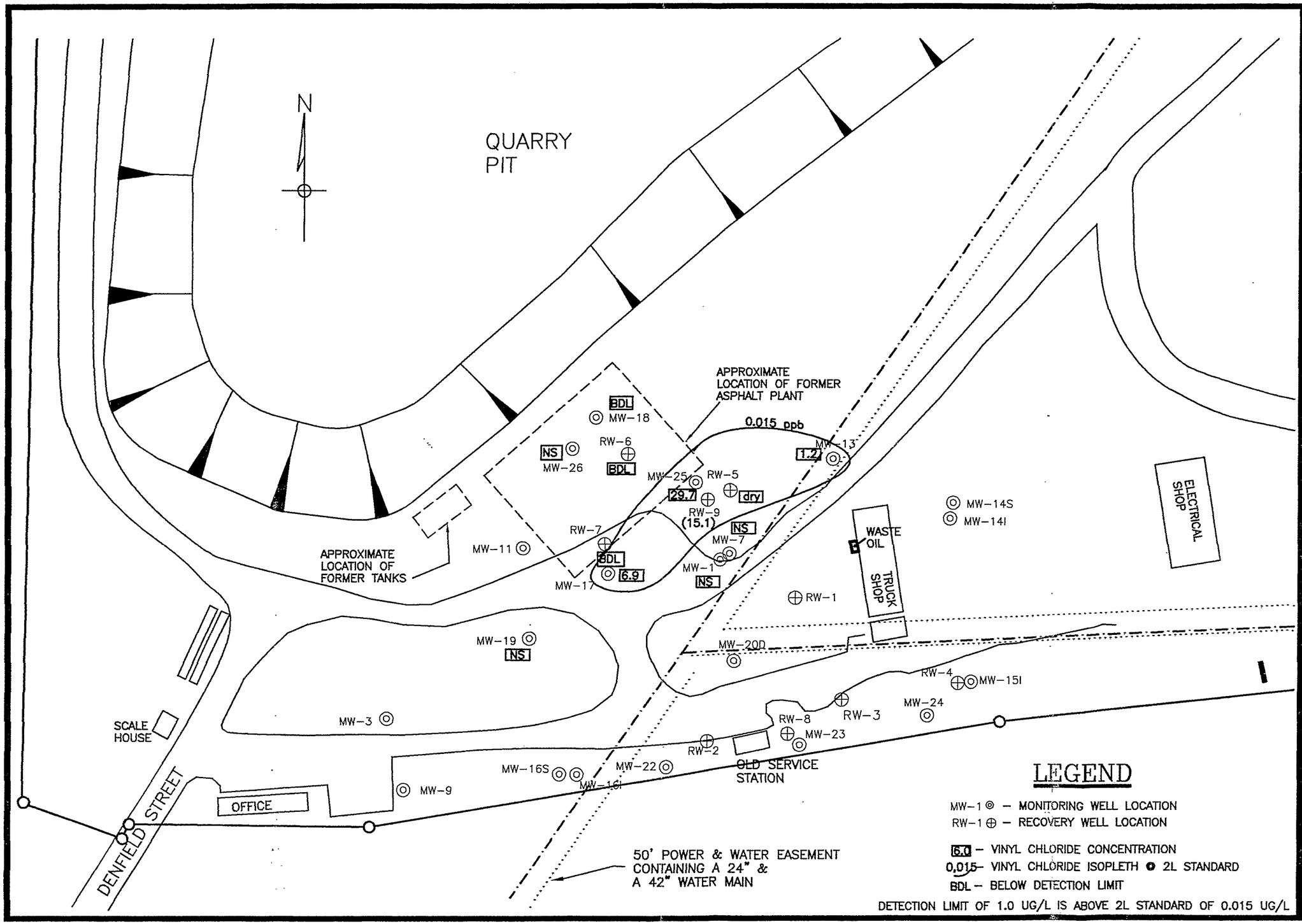

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION

6.0 – VINYL CHLORIDE CONCENTRATION
0.015 – VINYL CHLORIDE ISOPLETH ● 2L STANDARD
BDL – BELOW DETECTION LIMIT

DETECTION LIMIT OF 1.0 UG/L IS ABOVE 2L STANDARD OF 0.015 UG/L

Quantum ENVIRONMENTAL, INC.
2200 Gateway Boulevard, Suite 205 Morrisville, North Carolina 27560
Phone 919.469.1976 Fax 919.469.1337

FIGURE 6

SHALLOW AQUIFER
VINYL CHLORIDE PLUME
NELLO L. TEER
DURHAM QUARRY

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N

QUARRY
PIT

APPROXIMATE
LOCATION OF FORMER
ASPHALT PLANT

BDL
MW-18

RW-6
7.2
MW-26
BDL

200 ppb
MW-25
RW-5
342
dry
RW-9

BDL
RW-7

NS
MW-7
MW-1

MW-11

APPROXIMATE
LOCATION OF
FORMER TANKS

MW-17
BDL

MW-13
BDL

MW-14S
MW-14I

ELECTRICAL
SHOP

WASTE
OIL

TRUCK
SHOP

RW-1

MW-19

MW-20D

RW-4
MW-15I

MW-24

RW-3

RW-8
MW-23

RW-2

MW-3

SCALE
HOUSE

MW-16S
MW-16I

MW-22

OLD SERVICE
STATION

MW-9

OFFICE

DENFIELD STREET

50' POWER & WATER EASEMENT
CONTAINING A 24" &
A 42" WATER MAIN

LEGEND

MW-1 ◎ – MONITORING WELL LOCATION
RW-1 ⊕ – RECOVERY WELL LOCATION

342 – 1,1,1-TRICHLOROETHANE CONCENTRATION
200 – 1,1,1-TRICHLOROETHANE ISOPLETH ● 2L STANDARD

DECEMBER 2000 SAMPLING EVENT

Quantum ENVIRONMENTAL, INC.
2200 Gateway Boulevard, Suite 205 Morrisville, North Carolina 27560
Phone 919.481.9199 Fax 919.481.9191

FIGURE 7

SHALLOW AQUIFER
1,1,1 TRICHLOROETHANE
NELLO L. TEER
DURHAM QUARRY

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SCALE: 1"= 110'

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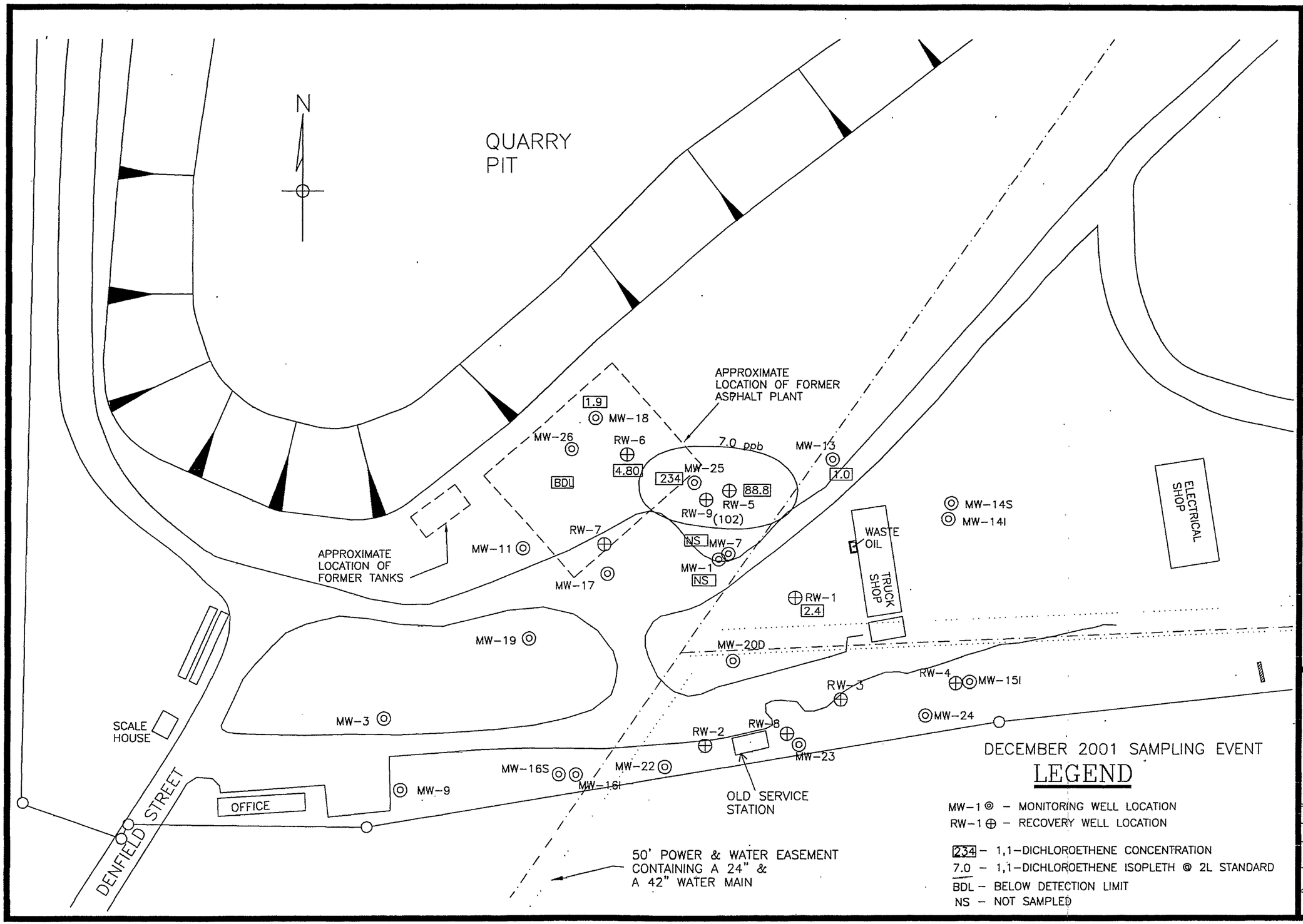

Quantum ENVIRONMENTAL, INC.
2200 Gateway Boulevard, Suite 205 Morrisville, North Carolina 27560
Phone 919.469.9766 Fax 919.462.2457

FIGURE 8

SHALLOW AQUIFER
1,1-DICHLOROETHENE
NELLO L. TEER
DURHAM QUARRY

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0013-94-012

SCALE: 1"= 110'

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DATE	DATE	DATE
12 01		

Appendix A
Example Monitoring Well Construction Log in Study Area

REMCOR

TEST BORING AND MONITORING WELL CONSTRUCTION LOG

		PAGE 1 OF 1
PROJECT NUMBER: 89409	PROJECT NAME: NELLO L. TEER – DURHAM QUARRY	
BORING NUMBER: MW–1	COORDINATES: 843,162N/2,031,985E	DATE: 2/20/90
T.O.C. ELEVATION: 330.30	GWL: DEPTH: 30.0 DATE/TIME: 11:20	DATE STARTED: 2/20
GEOLOGIST/ENGINEER: DPC	DEPTH: 29.7 DATE/TIME: 11:37	DATE COMPLETED: 2/20
DRILLING METHODS: AIR HAMMER		CHECKED BY: DMC

DEPTH FEET	SAMPLE TYPE & NO.	BLOWS PER 6"	RECOVERY (%)	DESCRIPTION	SOIL/ROCK TYPE	REMARKS	MONITORING WELL CONSTRUCTION
10	NA	NA	NA	0–4: TAN, WELL ROUNDED, WELL SORTED SAND; (FILL)	FILL	CEMENT BENTONITE GROUT	
				4–14: WEATHERED UNCONSOLIDATED SILTSTONE.		4"ø SCH. 40 FLUSH JOINT PVC RISER	
20				14–28: MAROON SANDSTONE, MOIST, MORE COMPETENT THAN UNCONSOLIDATED SILTSTONE.		BENTONITE PELLET SEAL	
						SAND PACK	
30				28: LIGHT GRAY, FINE GRAINED, SANDSTONE		4"ø SCH. 40 0.020" SLOT PVC SCREEN	
				TD=35 FT.			

BORING No. MW–1

Appendix B
Hydrogen Release Compound (HRC) Product Information

Hydrogen Release Compound (HRC™): Chlorinated Hydrocarbons Remediation

HRC: Innovation in Enhanced Anaerobic Bioremediation

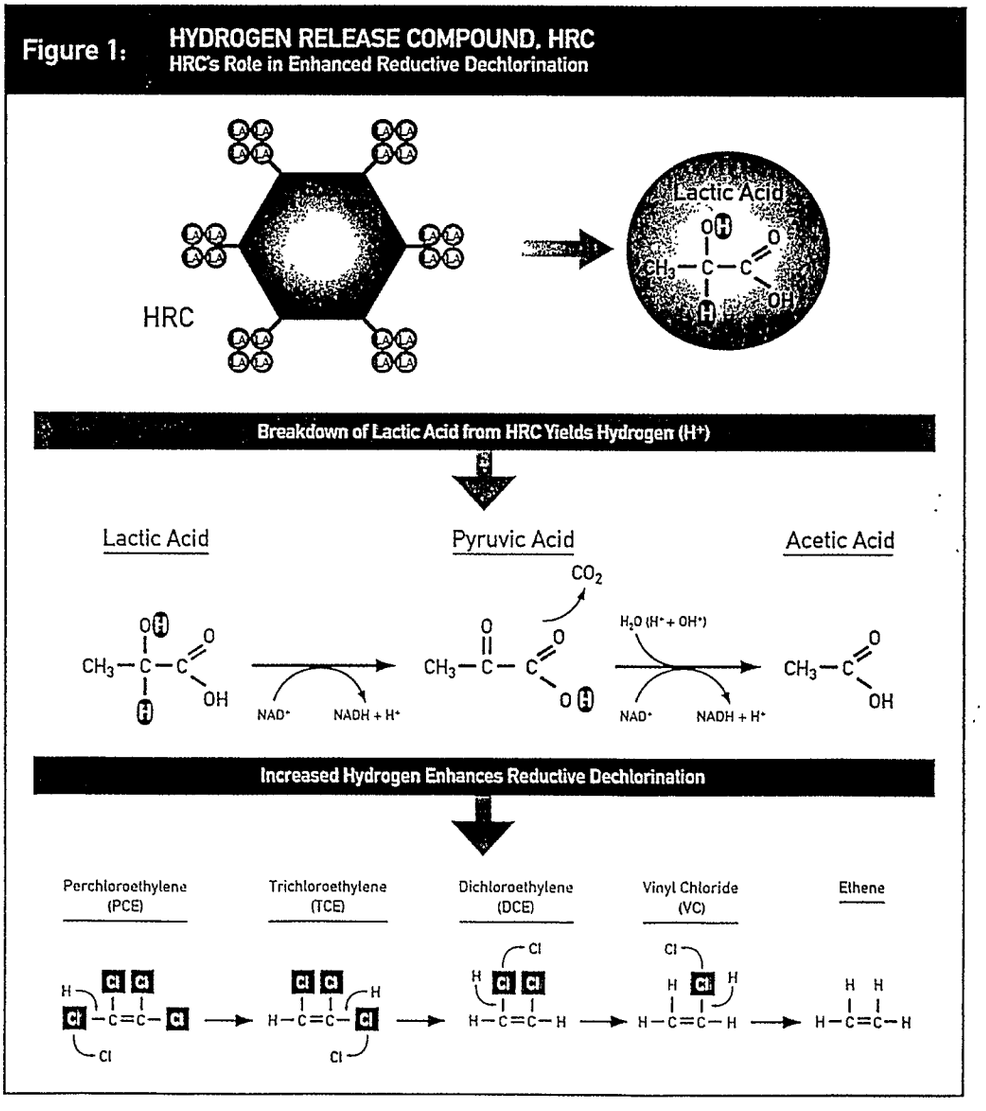
Hydrogen Release Compound (HRC) offers a passive, low-cost approach to in-situ anaerobic bioremediation. HRC is a proprietary, environmentally safe polylactate ester specially formulated for slow release of lactic acid upon hydration. Bioremediation with HRC is a multi-step process. Indigenous anaerobic microbes metabolize the lactic acid generated by HRC, and produce hydrogen. The resulting hydrogen can be used by reductive dehalogenators which are capable of metabolizing chlorinated hydrocarbons (CHs) via a process called reductive dechlorination. Major target compounds in this group include the chlorinated aliphatic hydrocarbons (CAHs), such as PCE, TCE, TCA and their derivatives. **By providing a long-lasting, time-released hydrogen source, HRC enhances anaerobic reductive dechlorination of CHs.**

HRC and Reductive Dechlorination

Reductive dechlorination is a term used to describe the mechanism by which CHs are biologically degraded under anaerobic conditions. It is a process in which anaerobic microbes substitute hydrogen (H) for chlorine (Cl) on CHs. Hydrogen resulting from the breakdown of HRC serves as an electron source. These electrons are necessary for dechlorination of CHs, as shown in Figure 1. Through this process, CHs can be degraded to harmless compounds such as ethene.

By increasing the amount of hydrogen in the environment HRC significantly increases the rate of biodegradation. Results at a site in Wisconsin indicate that the biodegradation rate of PCE was an order of magnitude higher in the HRC treatment area than that found in regions outside the treatment zone.

Figure 1: HYDROGEN RELEASE COMPOUND, HRC
HRC's Role in Enhanced Reductive Dechlorination

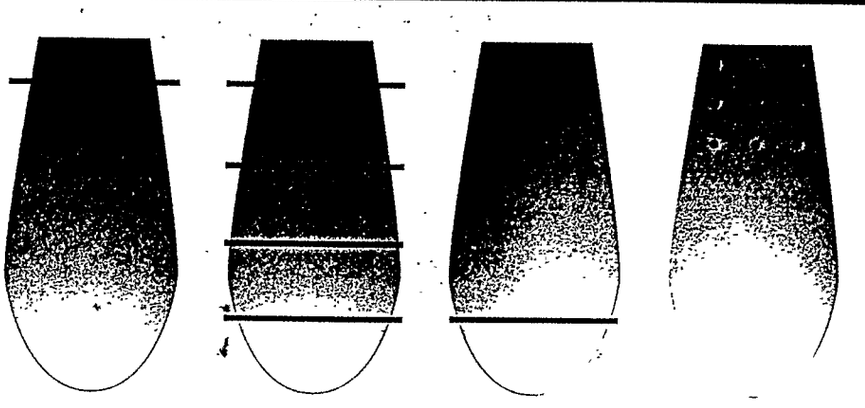


Hydrogen Release Compound (HRC™): Chlorinated Hydrocarbons Remediation

Site Objectives Addressed by HRC

HRC is applied in the field using direct-push injection technologies. HRC applications can be designed to address a wide range of remediation objectives.

Figure 2: DESIGNS FOR BARRIERS AND LOCALIZED PLUME TREATMENT



Containment —

HRC may be strategically applied in a series of injection points around the downgradient migrating edge of a plume. This design forms a hydrogen "barrier" that spans the aquifer's vertical saturated zone to prevent off-site migration.

Saturated Zone Source Treatment/Risk Reduction —

HRC application in or near the source area can:

- Contract the dissolved phase plume, shrinking it back toward the source area
- Increase the desorption rate in the source area to accelerate bioremediation of the entire contaminant mass

HRC/ORC® Dual Phase Treatment

Degradation rates of compounds like PCE and TCE are highest under anaerobic conditions. However, daughter products of PCE and TCE, such as vinyl chloride (VC), degrade more slowly under anaerobic conditions and may actually degrade faster under aerobic conditions.

Therefore, some sites may benefit from a dual phase approach where HRC and ORC (Oxygen Release Compound) are used either concurrently on separate areas of a plume, or sequentially within the plume area. Specifically, HRC treatment can be used in conjunction with ORC in either of two dual phase strategies:

- **Simultaneous HRC/ORC application:**
  HRC is applied to treat PCE and TCE at the source, while ORC is concurrently applied in a downgradient zone to treat the resulting VC.
- **Sequential HRC/ORC application:**
  For a given period of time, HRC is applied to treat PCE and TCE. As VC accumulates, HRC treatment is terminated and ORC is introduced.

REGENESIS
1011 Calle Sombra • San Clemente • California 92672
Tel: 949. 366. 8000. • Fax: 949. 366. 8090. • e-mail: orc@regenesis.com • www.regenesis.com

Appendix C
HRC Material Safety Data Sheet

REGENESIS

HRC MSDS

Home
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About Regenesis
What's New!
Products
Contaminants
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Conferences
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Library
Contact Us
Instructions
Address Update
Links Page

MATERIAL SAFETY DATA SHEET

Last Revised: March 1, 2001

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Section 1 - Material Identification

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Supplier: Regenesis Bioremediation Products
1011 Calle Sombra
San Clemente, CA 92673
Telephone: (949) 366-8000
Facsimile: (949) 366-8090

Chemical Name: Propanoic acid, 2-[2-[2-(2-hydroxy-1-oxopropoxy)-1-oxopropoxy]
-1-oxopropoxy]-1,2,3-propanetriyl ester

Chemical Family: Organic Chemical

Trade Name: Glycerol tripolylactate

Product Name: Hydrogen Release Compound® (HRC®)

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Section 2 - Hazardous Ingredients

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CAS #: 201167-72-8

One should anticipate the potential for eye irritation and skin irritation with large scale exposure or in s individuals.

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Section 3 - Physical Data

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Melting Point: NA

Boiling Point: ND

Flash Point: ND

Density: 1.347

Solubility: Acetone and DMSO

Appearance: Amber semi-solid

Odor: Not detectable

Vapor Pressure: None

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Section 4 - Fire and Explosion Hazard Data

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Extinguishing Media: Carbon Dioxide, Dry Chemical Powder or Appropriate Foam.

Water may be used to keep exposed containers cool.

For large quantities involved in a fire, one should wear full protective clothing and a NIOSH approved contained breathing apparatus with full face piece operated in the pressure demand or positive pressure for a situation where lack of oxygen and excess heat are present.

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Section 5 - Toxicological Information

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Acute Effects: May be harmful by inhalation, ingestion, or skin absorption.

May cause irritation. To the best of our knowledge, the chemical, physical, and toxicological properties glycerol tripolylactate have not been investigated. Listed below are the toxicological information for gl and lactic acid.

RTECS#: MA8050000

Glycerol

Irritation data: SKN-RBT 500 MG/24H MLD 85JCAE-,207,1986

EYE-RBT 126 MG MLD BIOFX* 9-4/1970

EYE-RBT 500 MG/24H MLD 85JCAE-,207,1986

Toxicity data: ORL-MUS LD50:4090 MG/KG FRZKAP (6),56,1977

SCU-RBT LD50:100 MG/KG NIIRDN 6,215,1982

ORL-RAT LD50:12600 MG/KG FEPRA7 4,142,1945

IHL-RAT LC50: >570 MG/M3/1H BIOFX* 9-4/1970

IPR-RAT LD50: 4420 MG/KG RCOCB8 56,125,1987

IVN-RAT LD50:5566 MG/KG ARZNAD 26,1581,1976

IPR-MUS LD50: 8700 MG/KG ARZNAD 26,1579,1978

SCU-MUS LD50:91 MG/KG NIIRDN 6,215,1982

IVN-MUS LD50: 4250 MG/KG JAPMA8 39,583,1950

ORL-RBT LD50: 27 GM/KG DMDJAP 31,276,1959

SKN-RBT LD50:>10GM/KG BIOFX* 9-4/1970

IVN-RBT LD50: 53 GM/KG NIIRDN 6,215,1982

ORL-GPG LD50: 7750 MG/KG JIHTAB 23,259,1941

Target Organ data: Behavioral (headache), gastrointestinal (nausea or vomiting), Paternal effects (spermatogenesis, testes, epididymis, sperm duct), effects of fertility (male fertility index, postimplant mortality).

RTECS#: OD2800000

Lactic acid

Irritation data: SKN-RBT 5MG/24H SEV 85JCAE -,656,86

EYE-RBT 750 UG SEV AJOPAA 29,1363,46

Toxicity data: ORL-RAT LD50:3543 MG/KG FMCHA2-,C252,91

SKN-RBT LD50:>2 GM/KG FMCHA2-,C252,91

ORL-MUS LD50: 4875 MG/KG FAONAU 40,144,67

ORL-GPG LD50: 1810 MG/KG JIHTAB 23,259,41

ORL-QAL LD50: >2250 MG/KG FMCHA2-,C252,91

Only selected registry of toxic effects of chemical substances (RTECS) data is presented here. See actu in RTECS for complete information on lactic acid and glycerol.

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Section 6 - Health Hazard Data

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Handling: Avoid continued contact with skin.

Avoid contact with eyes.

In any case of any exposure which elicits a response, a physician should be consulted immediately.

First Aid Procedures:

Inhalation: Remove to fresh air. If not breathing give artificial respiration. In case of labored breathing oxygen. Call a physician.

Ingestion: No effects expected. Do not give anything to an unconscious person. Call a physician imme

Skin Contact: Flush with plenty of water. Contaminated clothing may be washed or dry cleaned normal

Eye contact: Wash eyes with plenty of water for at least 15 minutes lifting both upper and lower lids. C physician.

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Section 7 - Reactivity Data

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Conditions to Avoid: Strong oxidizing agents, bases and acids

Hazardous Polymerization: None known

Further Information: Hydrolyses in water to form Lactic Acid and Glycerol.

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Section 8 - Spill, Leak or Accident Procedures

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After Spillage or Leakage: Neutralization is not required. This combustible material may be burned in chemical incinerator equipped with an afterburner and scrubber.

Disposal: Laws and regulations for disposal vary widely by locality. Observe all applicable regulations laws. This material, may be disposed of in solid waste. Material is readily degradable and hydrolyses in hours.

No requirement for a reportable quantity (CERCLA) of a spill is known.

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Section 9 - Special Protection or Handling

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Should be stored in plastic lined steel, plastic, glass, aluminum, stainless steel, or reinforced fiberglass containers.

Protective Gloves: Vinyl or Rubber

Eyes: Splash Goggles or Full Face Shield

Area should have approved means of washing

eyes.

Ventilation: General exhaust.

Storage: Store in cool, dry, ventilated area.

Protect from imcompatible materials.

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Section 10 - Other Information

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This material will degrade in the environment by hydrolysis to lactic acid and glycerol.

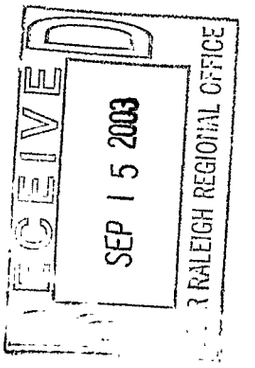
Materials containing reactive chemicals should be used only by personnel with appropriate chemical tr

The information contained in this document is the best available to the supplier as of the time of writin possible hazards have been determined by analogy to similar classes of material. No separate tests have performed on the toxicity of this material. The items in this document are subject to change and clarific more information becomes available.

Quantum Environmental, Inc.

September 12, 2003

Mr. Mark Powers
North Carolina Department of Environment and Natural Resources
UST Section
Raleigh Regional Office
1628 Mail Service Center
Raleigh, N.C. 27699-1628



Re: Nello Teer Quarry, Denfield Street, Durham, NC
Temporary Suspension of Active Groundwater Recovery
Groundwater Incident No. 9357

Dear Mr. Powers:

Quantum Environmental, Inc. (Quantum) is submitting this letter as notification that operation of the groundwater remediation system at the above-referenced site has been temporarily suspended as of September 9, 2003.

The discharge from the system periodically fails chronic-toxicity testing under the current discharge configuration and sample concentration of 90% effluent/10% laboratory medium. Quantum has done extensive research in an attempt to determine the source of the chronic toxicity problems and has been unable to conclusively pinpoint and thus rectify the source of the problem. Analysis of the failed chronic toxicity tests indicates that the Ceriodaphnia successfully survived the test period, but they failed to reproduce adequately. Further analysis of the system effluent is dependent on the system failing another chronic toxicity test. This would result in our client, Hanson Aggregates, receiving another Notice of Violation. As this is not a viable option, the decision was made to temporarily suspend operation of the system.

Quantum is currently exploring other discharge alternatives that would permit operation of the remediation system. The alternatives being considered include extending the sanitary sewer line along Denfield Street and re-routing the discharge into this line, modifying the existing system such that the discharge point is the Eno River, and finally including a down-gradient constructed wetlands as part of the remediation system and altering the sampling point as a result. If the discharge is re-routed to the sanitary sewer, chronic toxicity testing would no longer be needed. If the discharge is routed to the Eno River, the higher 7Q-10 rating of the Eno would permit substantially greater dilution of the effluent prior to chronic toxicity testing. If the sample collection location is changed to the wetlands discharge point, as originally designed, the additional treatment of the effluent may help the samples pass the chronic toxicity testing. The constructed wetlands is described in the September 1995 *Corrective Action Plan (CAP) Addendum* submitted by Front Royal Environmental Services. Quoting from the CAP Addendum, "The discharge will flow approximately 1,500

6001 Chapel Hill Road Suite 108 Raleigh, North Carolina 27607 919.852.3595 919.852.1997 fax

feet through 6.5 acres of constructed wetlands between the discharge point and the unnamed tributary to the Eno River."

Regardless of the eventual discharge option selected, and when that option can be implemented, site remediation will otherwise proceed. The Soil Vapor Extraction system, when it becomes operational, will continue to remediate the limited amount of petroleum-contaminated groundwater at the site, as well as the soil. This system has been ordered and is expected to become operational before the end of this year.

If you have any questions regarding this matter please contact me at (919) 852-3595.

Sincerely,

QUANTUM ENVIRONMENTAL, INC.

Thomas W. Davis, L.G.
Project Hydrogeologist

L03-153

cc: Mr. Steve Edgerton, L.G., Hanson Aggregates
Mr. Kevin Bowden, DENR, DWQ
Mr. Tom Belnick, DENR, DWQ, NPDES Unit
Mr. Eric Rice, DENR, Groundwater Section, RRO